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9 February 1973

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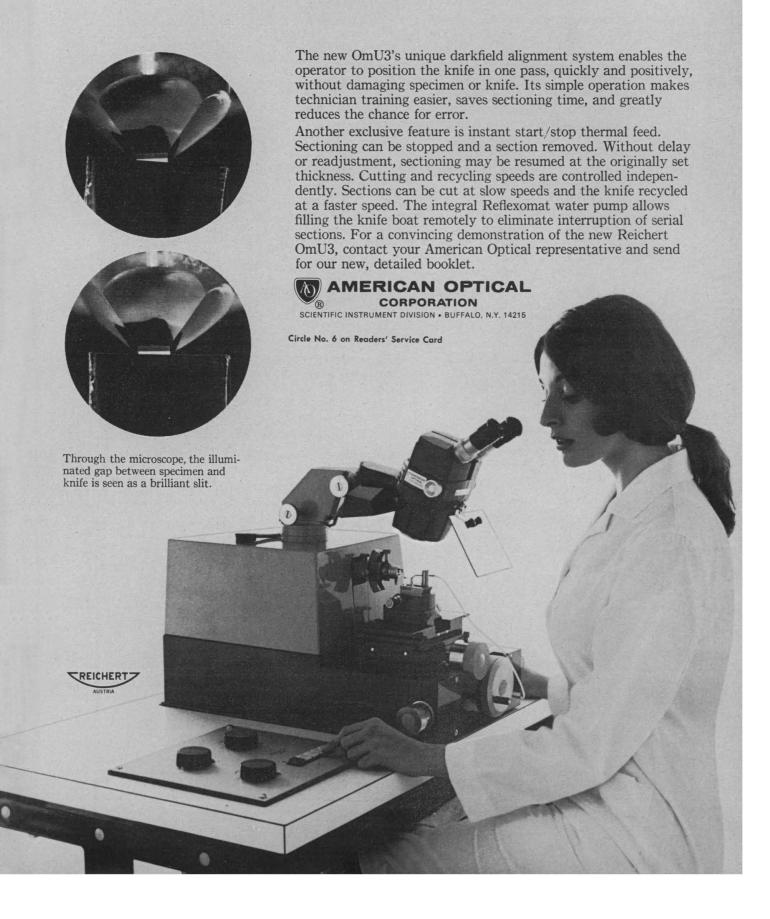
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Comet Bennett 1970 II seen from the desert near Tucson, Arizona, at dawn on 27 March 1970. See page 565. [Stephen M. Larson, Lunar and Planetary Laboratory, University of Arizona, Tucson]

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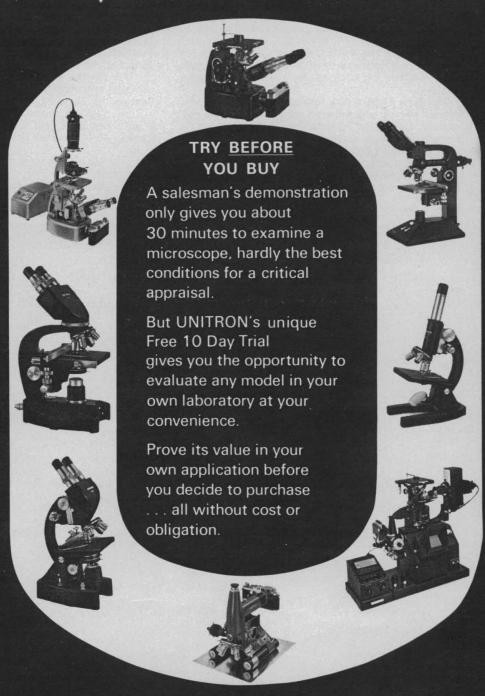
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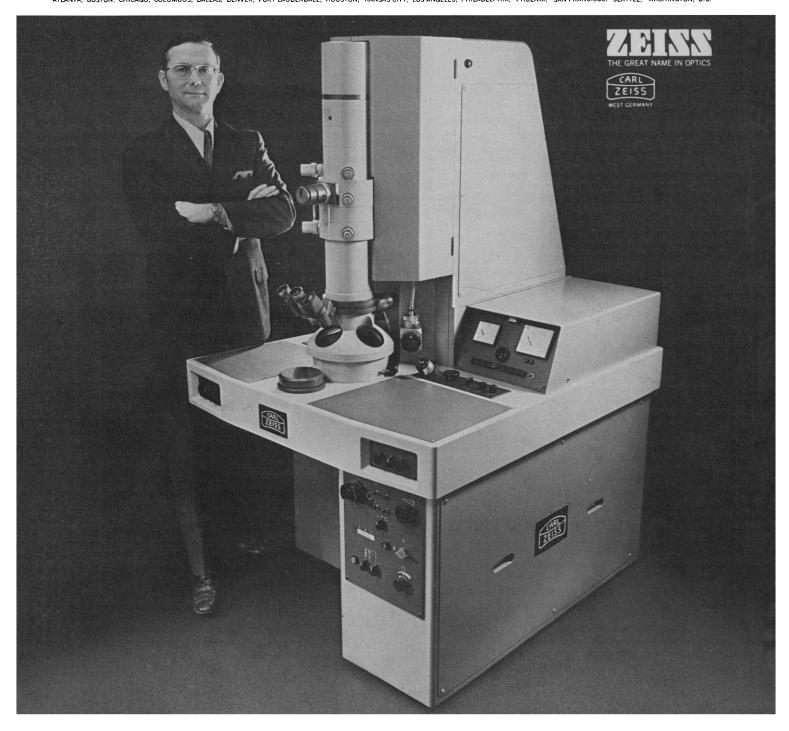
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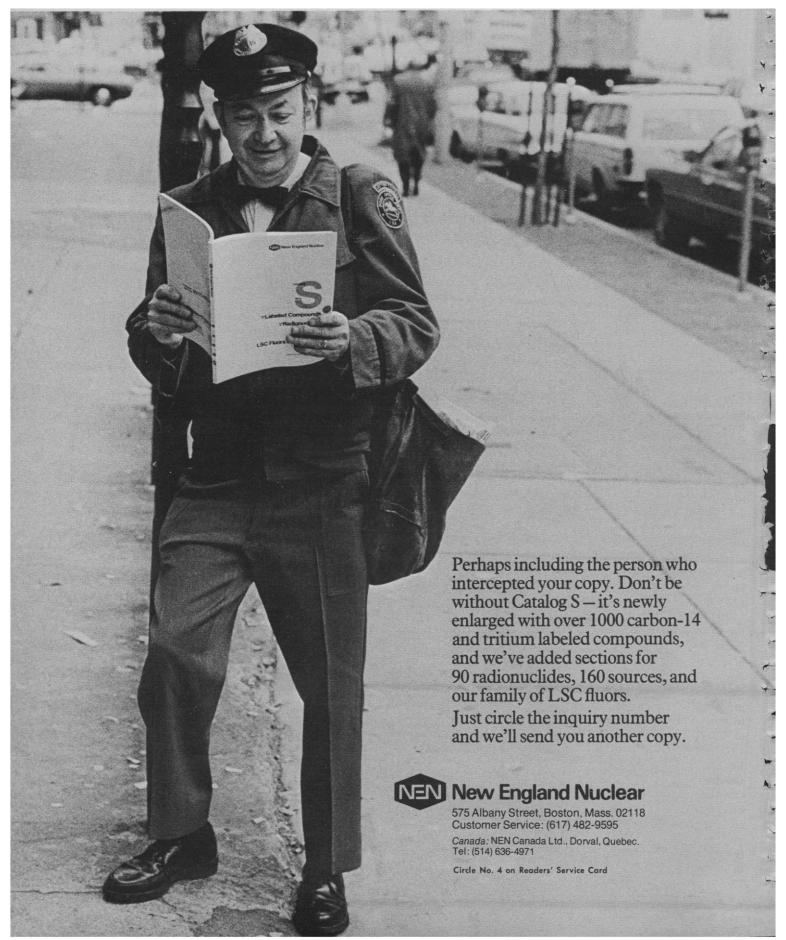
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There has been an increasing interest in the application of science and technology to public problems (see, for example, the President's Message to Congress, 16 March 1972). Under a grant from the Office of Intergovernmental Science Programs of the National Science Foundation to Speaker Perry B. Duryea, Jr., the Assembly Scientific Staff of the New York State Legislature ran a single ad in the Sunday New York Times, and a single classified ad in Science (11 Feb. 1972, p. 677) for a Principal Scientific Adviser. In addition, 175 letters were sent to government agencies and universities announcing the position.

As of the cutoff date (1 March 1972), 355 replies had been received, half from the ad in *Science*, 16 from women, and 6 from foreign countries. Exactly

300 respondents had doctoral degrees, and the average age of the respondents was 42. Fields of interest were about equally divided between the biological and physical sciences. Clearly, 79 people were unemployed, and 36 were ambiguous. All were told, unfortunately only by means of a form letter, of the substantial response, but 128 wrote twice or more.

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A crucial point in the application of

science is that legislators, being politically accountable, must be able to demonstrate favorable results to their constituents every year in the same way that a businessman, being financially accountable, must show a profit every year. Scientists who wish to participate in the solution of public problems (and from the data above, there seem to be many) must learn to function in this climate of the real world and merchandise their product of problem-solving with attention to a market that often doesn't understand what science really can do. In this matter, professional societies such as the American Association for the Advancement of Science could accept a real challenge.

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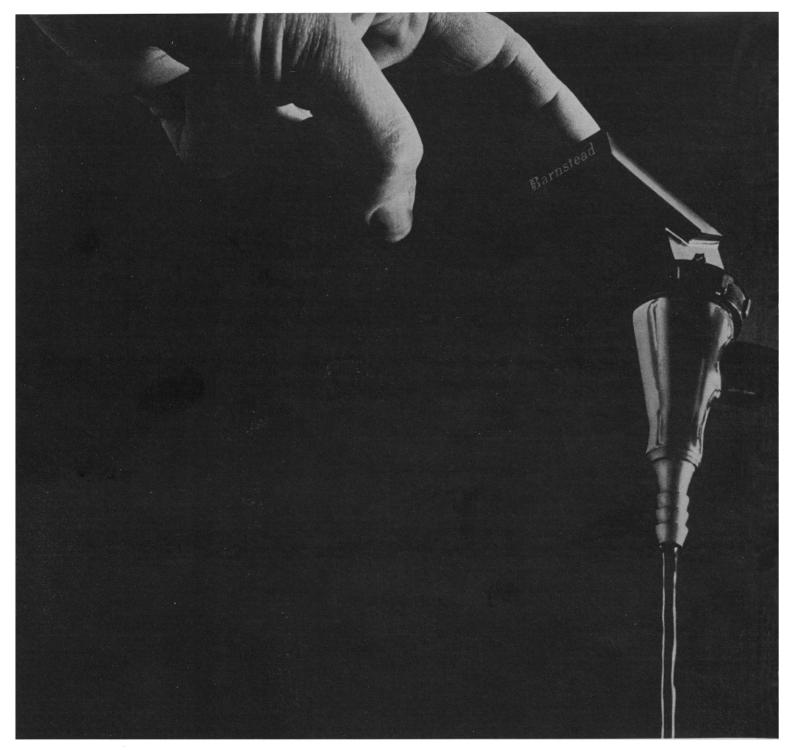
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The Big Thicket National Park

Texas, to the unknowing, conjures up an image of monotony—cattle, sagebrush, and mesquite in a setting of unvarying vastness. But to the resident and traveler, Texas is a land of contrasts and splendor, and to the biologically alert, it is a land of many resources worth preserving.

One of the most interesting areas of the state is the sprawling semiwilderness north of Houston and Beaumont that goes by the name of Big Thicket. A region of extraordinary botanical exuberance, the Thicket is ecologically unique not only to Texas, but to the entire North American expanse as well. Located at the crossroads between the forests of the South and East and the vegetation of the West, the Thicket includes in its pine-hardwood stands elements from all convergent zones. A wet climate and a water-storing soil combine to nurture the mixture to lushness. Fully 15 of the trees designated by the United States as "national champions" are from the Thicket, including longleaf pine, American holly, black hickory, Texas honey locust, sweet bay magnolia. Rugel sugar maple, and water tupelo. The fauna is no less impressive. Vertebrates, and particularly birds, abound in number and kind, and the diversity of arthropods is second to few that I have encountered in field work in 45 states and three other continents.

But sheer abundance or record sizes is not what matters about the Thicket, It is the way in which diversity of kind is combined with diversity of association that gives the area its special mark. Plant communities of very different types exist in contiguity or near-contiguity in the Thicket-upland communities, savannahs, beech-magnolia communities, bogs, palmetto-bald cypress-hardwood communities, floodplain forests, and several others have been recognized. Seen in worldwide ecological perspective, the Big Thicket may well be one of the most richly substructured regions in existence. For this reason alone, if not also for its magnificence, the Thicket is worth saving. It is an invaluable and irreplaceable natural resource.

Today, after years of encroachment upon the area, mostly through lumbering, only about a tenth of the original 3.5 million acres of the Thicket remains in a state that can be called wild or semiwild. But the remnant includes much of what is most valuable in the Thicket, and its preservation should be assured now. Creating a Big Thicket National Park is an obvious and immediately practicable solution, and there are welcome signs these days that legislators, lumbermen, and conservationists have begun to agree on the need for a park. But what remains unsettled is whether the park will encompass sufficient acreage to ensure its survival. The consensus among scientists who recently petitioned the government—a total of several hundred from almost 30 states, including some of the most prominent biologists in the nation—is that at least 200,000 acres will need to be set aside for the preserve. It is to be hoped that this judgment will be appropriately weighted.—Thomas Eisner, Division of Biological Sciences, Cornell University, Ithaca, New York 14850

EDITOR'S NOTE: Prospects for the establishment of a 200,000-acre park appear virtually nil. Up until last year, Representative Bob Eckhardt (D-Tex.) was proposing a park that would embrace 191,000 acres. But political opposition to this proposal was such that Eckhardt and the Big Thicket Association (the Texas group that has been pressing for the establishment of the park) reluctantly agreed to a less ambitious alternative: a park limited to 100,000 acres that would take in the land along the several streams that traverse the Big Thicket region—the objective being to preserve the floodplains, where much of the most unusual flora and fauna are found.

On 11 January 1973, Senator Lloyd Bentsen (D-Tex.) introduced a bill that would establish a 100,000-acre park but that would allow the National Park Service to define the boundaries. The guess here is that the park as proposed by the Park Service would be made up of contiguous lands—something quite different from what Eckhardt and the Big

made up of contiguous lands—something quite different from what Eckhardt and the Big Thicket Association have in mind. Opposition on the part of timber interests and some residents of the Big Thicket region to the establishment of a large park is sufficiently strong that, unless the park proponents can agree on a common approach, there may be no park at all.

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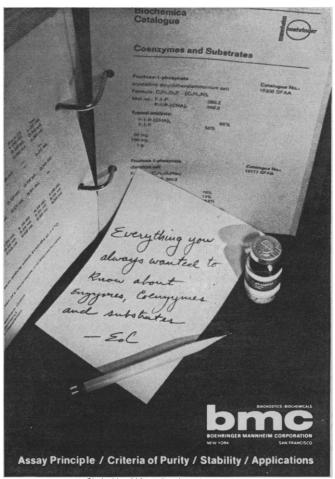
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- 30-3. National Science Teachers Assoc., Detroit, Mich. (R. H. Carleton, NSTA, 1201 16th St., NW, Washington, D.C. 20036)
- 31. New Jersey Acad. of Science, West Long Branch. (M. L. Branin, Box 61, Cranbury, N.J. 08512)
- 31-6. American Pharmaceutical Assoc., Chicago, Ill. (W. S. Apple, APA, 2215 Constitution Ave., NW. Washington, D.C. 20037)

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- 1-4. Information Industry Assoc., 5th natl., Philadelphia, Pa. (P. G. Zurkowski, 904 Montgomery Bldg., Washington, D.C. 20014)
- 2. Mathematical Analysis of Fundamental Biological Phenomena, New York Acad. of Sciences, New York, N.Y. (O. Gurel, IBM Corp. Scientific Center, White Plains, N.Y.)
- 2-3. Conference on Chlorinate Dibenzodioxins and Dibenzofurans: Chemistry, Analytical Methodology, Environmental Aspects, Toxicology, Biochemical Actions, Natl. Inst. of Environmental Health Sciences, Research Triangle Park, N.C. (J. A. Moore, Natl. Inst. of Environmental Health Sciences, Research Triangle Park 27709)
- 2-7. American College of Radiology, San Francisco, Calif. (W. C. Stronach, ACR, 20 N. Wacker Dr., Chicago, Ill. 60606)
- 3-5. Reliability Physics Symp., Inst. of Electrical and Electronics Engineers, Las Vegas, Nev. (H. Lauffenburger, IIT Research Inst., 10 W. 35 St., Chicago, Ill. 60616)
- 3-13. Education of Teachers for Integrated Science, Committee on Teaching of Science, International Council of Scientific Unions, College Park, Md. (M. Dietz, Science Teaching Center, Univ. of Maryland, College Park 20742)
- 4-5. Environmental Pollution, 4th annual symp., American Ordnance Assoc., Chesapeake chapter, Edgewood Arsenal, Md. (A. Sullivan, AOA, Union Trust Bldg., 740 15th St., NW, Washington, D.C. 20005)
- 4-7. American Fertility Soc., San Francisco, Calif. (W. C. Stronach, AFS, 1801 Ninth Ave. S., Birmingham, Ala. 35205)
- 5-7. Alabama Acad. of Science, Huntsville. (T. Denton, Biology Dept., Samford Univ., Birmingham, Ala. 35209)
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- 5-9. Combustion Engines, 10th intern. congr., American Soc. of Mechanical Engineers, Washington, D.C. (Meetings Officer, ASME, United Engineering Center, 345 E. 47 St., New York 10017)
- 6-8. American Psychosomatic Soc., 30th annual, Denver, Colo. (M. T. Singer, 265 Nassau Rd., Roosevelt, N.Y. 11575)
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- 8-13. American Chemical Soc., 165th natl., Dallas, Tex. (Meetings Manager, ACS, 1155 16th St., NW, Washington, D.C. 20036)
- 8-14. Turbulent Diffusion in Environmental Pollution, 2nd symp., American Geophysical Union, Charlottesville, Va. (A. F. Spilhaus, Jr., American Geophysical Union, 1707 L St., NW, Washington, D.C. 20036)



- 9-10. Cooley's Anemia, New York Acad. of Sciences, New York, N.Y. (E. C. Zaino, Mercy Hospital, Rockville Centre, N.Y.)
- 9-11. Frontiers in Education, Education Group of the Inst. of Electrical and Electronics Engineers, West Lafayette, Ind. (Meetings Officer, IEEE, 345 E. 47 St., New York 10017)
- 9-11. Interaction of Particle Beams with Surfaces, Lancaster, England. (Meetings Officer, Inst. of Physics, 47 Belgrave Sq., London SWIX 8QX, England)
- 9-11. American Vacuum Soc., New Mexico chapter, Albuquerque. (R. L. Gerlach, Sandia Labs., Albuquerque)
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- 9-12. Cancer Detection and Prevention, 2nd intern. symp., Intern. Union against Cancer and Intern. Agency for Research on Cancer of the World Health Organization, Bologna, Italy. (2nd Intern. Symp. on CDP, Istituto di Oncologia "F. Addarii," Viale Ercolani 4/2, 40138 Bologna)
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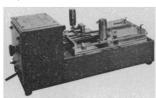
- Energy Authority, Keswick in Cumberland, England. (J. R. Wakefield, UKAEA, Windscale, Seascale, Cumberland, England, CA20 1PF)
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- Care, American Medical Assoc., Chicago, Ill. (J. Rowland, Div. of Medical Practice, AMA, 535 N. Dearborn St., Chicago 60610)
- 15-18. Association of American Geographers, Atlanta, Ga. (J. W. Nystrom, AAG, 1710 16th St., NW, Washington, D.C. 20009)
- 15-19. Industrial Aspects of Biochemistry, Federation of European Biochemical Socs., Dublin, Ireland. (B. Masterson, FEBS Meeting Secretariat, IMA Conf. Centre, 10, Fitzwilliam Pl., Dublin 2)
- 15-20. American Soc. of Biological Chemists, Atlantic City, N.J. (R. A. Harte, ASBC, 9650 Rockville Pike, Bethesda, Md. 20014)
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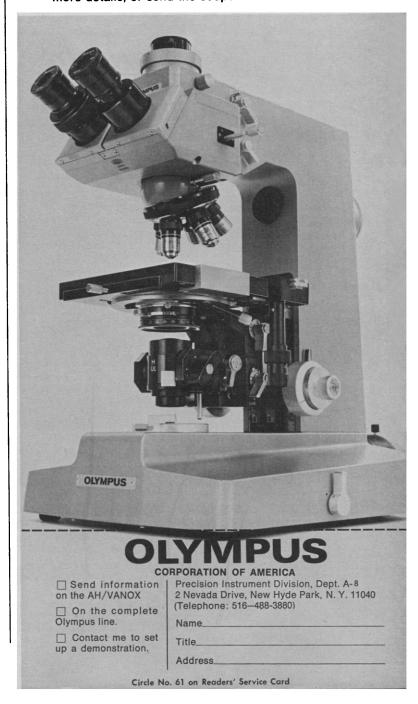


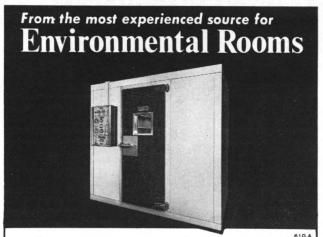
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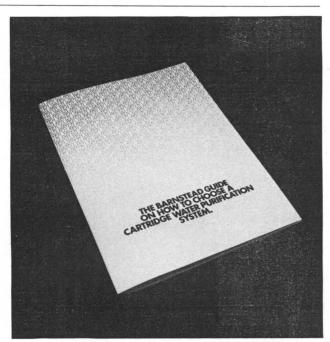
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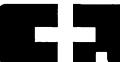
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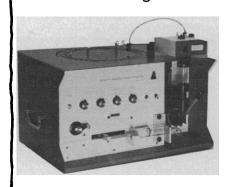
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26. Sigma Pi Sigma, Washington, D.C. (D. W. J. Shea, State Univ. of New York, Stony Brook 11790)

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26-28. Louisiana Acad. of Sciences, Monroe. (B. F. Dowden, Dept. of Biological Sciences, Louisiana State Univ., Shreveport 71105)

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27-28. North Carolina Acad. of Science, Charlotte. (J. A. Yarbrough, Dept. of Biology, Meredith College, Raleigh 27602)

27-28. American Assoc. of University Professors, St. Louis, Mo. (B. H. Davis, AAUP, Suite 500, 1 Dupont Circle, NW, Washington, D.C. 20036)

27-26. Wisconsin Acad. of Sciences, Arts and Letters, Prairie du Chien. (J. R. Batt, WASAL, 5001 University Ave., Madison 53705)

28. Society for Investigative Dermatology, Atlantic City, N.J. (J. S. Strauss, Boston Univ. Medical Center, 80 E. Concord St., Boston, Mass. 02118)

28. Societal Problems of Water Resources, 2nd annual symp., Illinois Earth Science Assoc., Chicago. (M. Qutub, Northeastern Illinois Univ., Bryn Mawr at St. Louis Ave., Chicago 60625)

28-29. Montana Acad. of Sciences, Dillon. (R. E. Juday, Dept. of Chemistry, Univ. of Montana, Missoula 59801)

28-30. International Symp. on the Genetics of Cyanophytes, Pittsburgh, Pa. (E. Raizen, Dept. of Biological Sciences, Duquesne Univ., Pittsburgh 15219)

29-1. Classification Soc., North American Branch, 4th annual, Atlanta, Ga. (F. J. Rohlf, Dept. of Biology, State Univ. of New York, Stony Brook 11790)

29-2. Off-Shore Technology, Inst. of Electrical and Electronics Engineers, Houston, Tex. (Technical Activities Bd., 345 E. 47 St., New York 10017)

29-3. American Ceramic Soc., Inc., Cincinnati, Ohio. (F. P. Reid, ACSI, 65 Ceramic Dr., Columbus 43214)

29-3. American Oil Chemists Soc., New Orleans, La. (J. Lyon, AOCS, 508 S. 6 St., Champaign, Ill. 61820)

30-12. Lindau Psychotherapy Weeks, Assoc. for Psychotherapeutic Training, Lindau, Germany. (H. Stolze, D-8 München 81, Adalbert-Stifter-Strasse 31) 1-2. Electron Device Techniques Conf., Inst. of Electrical and Electronics Engineers, New York, N.Y. (D. Slater, Advisory Group on Electron Devices, 9th Floor, 201 Varick St., New York 10014)

1-3. Industrial Waste, 28th annual conf., West Lafayette, Ind. (D. W. Hawkins, Room 308, Civil Engineering Bldg., Purdue Univ., West Lafayette 47907)

1-4. Virginia Acad. of Science, Williamsburg. (R. C. Berry, 5907 Brookfield Rd., Richmond, Va. 23227)

2-4. International Conf. on Surgical Care, Royal College of Surgeons, Dublin, Ireland. (H. O'Flanagan, Irish Medical Assoc., 10 Fitzwilliam Pl., Dublin 2)

2-5. Midwestern Assoc. of Forensic Scientists, Lansing, Mich. (R. E. Bisbing, Div. of Crime Detection, Michigan Dept. of Public Health, 3500 N. Logan St., Lansing 48914)

2-6. Protides of Biological Fluids, 21st colloquium, Brugge, Belgium. (Colloquium on Protides of the Biological Fluids, Simon Stevin Instituut, Jerusalemstraat 34, B-8000 Brugge)

3-4. National Information Retrieval Colloquim, 10th annual, Philadelphia, Pa. (M. Nussbaum, Computamation, 2955 Kensington Ave., Philadelphia 19134)

3-5. Society for American Archaeology, San Francisco, Calif. (R. E. W. Adams, Univ. of Texas, Suite 250, 4242 Piedras Dr., San Antonio 78228)

3-5. American Assoc. for the History of Medicine, Cincinnati, Ohio. (G. Miller, Howard Dittrick Museum of Historical Medicine, 11,000 Euclid Ave., Cleveland, Ohio 44106)

3-5. Eastern **Psychological** Assoc., Washington, D.C. (M. Benimoff, Dept. of Psychology, Glassboro State College, Glassboro, N.J. 08028)

3-6. Christian Medical Soc., Dallas, Tex. (H. W. Robinson, 3909 Swiss Ave., Dallas 75214)

3-6. Association of Clinical Scientists, Tampa, Fla. (F. W. Sunderman, Jr., Univ. of Connecticut, School of Medicine, Box G, Farmington 06032)

3-6. National Assoc. of Social Workers, Atlanta, Ga. (C. A. Alexander, NASW, 600 Southern Bldg., 15th and H Sts., NW, Washington, D.C. 20005)

3-7. American **Psychoanalytic** Assoc., Honolulu, Hawaii. (S. Goodman, 3021 Telegraph Ave., Berkeley, Calif. 94705)

3-7. Association for Research in Vision and Ophthalmology, Sarasota, Fla. (R. D. Reinecke, Albany Medical College, Albany, N.Y. 12208)

4-5. Minnesota Acad. of Science, Northfield. (M. I. Harrigan, MAS, 3100 38th Ave., S., Minneapolis, Minn. 55406)

4-5. North Dakota Acad. of Science, Grand Forks. (B. G. Gustafson, Div. of Continuing Education, Univ. of North Dakota, Grand Forks 58201)

4-6. American College of Apothecaries, St. Louis, Mo. (D. C. Huffman, Jr., 5291 Rock Ridge Rd., Memphis, Tenn. 38128)

4-6. American Acad. of Psychoanalysis, Honolulu, Hawaii. (J. Barnett, AAP, 40 Gramercy Park N., New York 10024)

6-11. American Soc. for Microbiology, Miami Beach, Fla. (R. W. Sarber, ASM, 1913 I St., NW, Washington, D.C. 20006)