

conductors was introduced by R. B. Griffiths (Carnegie-Mellon). He reviewed the behavior of critical exponents when the position of the critical point itself depends on external parameters. He suggested that, on the basis of a smoothing postulate, one should expect all the intensive parameters affecting a system to enter into the description of the data on an equivalent basis. J. D. Litster (M.I.T.) discussed the first-order nematic-isotropic transition in liquid crystals. He showed that the Landau theory of critical phenomena gave a satisfactory description of the order parameter. A detailed discussion of the applicability of a scaling equation of state to magnets was presented by M. Vicentini-Missoni (Rome). She showed that the parametric form could give a good fit to data for several real magnets, but that the linear model needs further correction. J. S. Kouvel (University of Illinois at Chicago) reported a study of critical phenomena in Pd-Fe alloys. The data can in all cases be fitted well with the use of the scaling equation of state, and, in the case of the dilute Pd-Fe alloy, give further confirmation of the existence of the "giant moment." A study of fluctuation near the phase transition in one-dimensional superconductors was discussed by R. J. Warburton (Cornell). The lower dimensionality of the single thin whisker crystals makes accessible a critical region in a superconductor which is wider on the temperature scale than that of bulk superconductors. The data are sufficient to differentiate between some of the competing theories of the fluctuations.

The session on transport properties was divided into three parts. Work with the relatively new techniques of light scattering in fluids was discussed by G. Benedek (M.I.T.) and B. Volochine (Saclay). Benedek examined many of the facets of the problem of interpreting data obtained from the scattering of light by critical fluctuations in pure fluids, Xe and SF₆. An old discrepancy concerning the line widths in SF₆ above and below T_c (critical temperature) may have been resolved by data showing that a divisor, ρC_p (density time heat capacity at constant pressure), in the line-width expression does not, in fact, vary like a simple exponential along the coexistence curve. Volochine reported that data taken on the binary mixture cyclohexane-aniline were in very good agreement with the mode-mode coupling theory of Kawasaki. In the sec-

ond part of transport properties, K. Kawasaki (Temple) discussed a theory giving the probability distribution function for the local hydrodynamic variables and the order parameter. The generalized Fokker-Planck equation he derived yields the previous results of dynamical scaling theory for magnets and the lambda transition in liquid helium. In binary liquid mixtures, a second scaling parameter appears to be required for some of the transport coefficients. New experiments with more traditional methods were reported by Peter Heller (Brandeis) and Martin Barmatz (Bell Telephone Laboratories). Heller has studied extensively transport properties in the uniaxial antiferromagnet, FeF₂, using both nuclear magnetic resonance (NMR) and neutron scattering techniques to differentiate between the contributions of the longitudinal and transverse susceptibilities to the NMR line widths. Barmatz has applied the scaling equation of state in the study of the lambda transition in helium in order to anticipate better the effects of gravity over the critical zone in a column of the fluid. The improved analysis of data thereby made possible gives results that again agree well with the theory of Kawasaki. The third part of the session on transport phenomena was concerned with the metal-insulator transition that was reported previously by T. M. Rice to exhibit some of the characteristics of critical points. David Adler (M.I.T.) reviewed the features of such conductivity transitions and discussed several possible mechanisms. T. M. Rice presented a theory on the Mott transition in V₂O₃. No conclusive evidence of critical phenomena in these transitions was presented.

In a final summary session intended to tie together the various aspects of the subject discussed earlier in the week, Widom discussed models displaying asymmetry of contiguous phases near T_c. Kac presented remarks concerning the remarkable applicability of molecular-field theory, and Benedek discussed briefly light studies of turbulent flow. Referencing Kelvin's famous 19th-century summary of the comfortable state of physics, Elliott Montroll (Rochester) summarized the current state of knowledge of critical phenomena. He observed that the experimental aspects are well established now, that the data appear to be well described by the phenomenological equations of static and dynamic scaling, but that it would be desirable to

improve the theory so as to understand better "small clouds on the horizon," such as the origins of critical exponents and solutions for the nonlinear dynamical equations and the three-dimensional Ising model.

The proceedings of the colloquium will be the topic of a forthcoming McGraw-Hill publication, and will be inscribed in honor of Lars Onsager, "whose exact solution of the two-dimensional Ising model led the way to quantitative treatment of critical phenomena described in these proceedings."

R. E. MILLS, E. ASCHER

R. I. JAFFEE

Battelle Memorial Institute, Columbus Laboratories, Columbus, Ohio, and Advanced Study Center, Geneva, Switzerland

Forthcoming Events

January

10-13. American Meteorological Soc., New Orleans, La. (K. C. Spengler, AMS, 45 Beacon St., Boston, Mass. 02108)

11-13. Systems Sciences, 5th intern. conf., Honolulu, Hawaii. (Information Sciences Program, 2565 The Mall, Univ. of Hawaii, Honolulu 96822)

11-15. National Soc. of Professional Engineers, Dallas, Tex. (P. H. Robbins, NSPE, 2029 K St., NW, Washington, D.C. 20006)

13-14. Molecular Basis of Electron Transport, Biochemistry-Papanicolaou Cancer Research Inst., 4th annual, Miami Beach, Fla. (Biochemistry-PCRI Winter Symposia, P.O. Box 906, Biscayne Annex, Miami, Fla. 33152)

16. Human Factors in the Design and Operation of the Highway Transportation System, 5th annual workshop, Washington, D.C. (A. J. McKnight, 300 N. Washington St., Alexandria, Va. 22314)

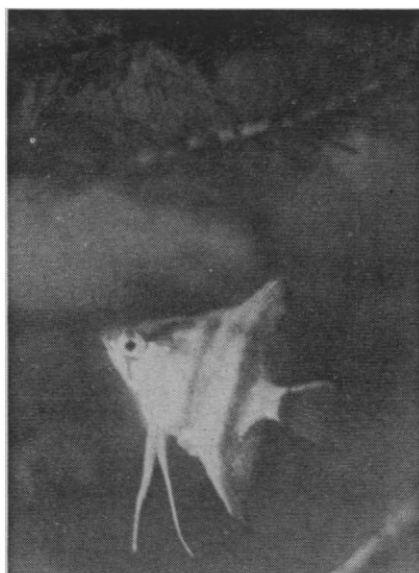
17-19. American College of Surgeons, sectional mtg., Miami, Fla. (Communications Div., ACS, 55 Erie St., Chicago, Ill. 60611)

17-21. Numerical Reactor Calculations Symp., Intern. Atomic Energy Agency, Vienna, Austria. (J. H. Kane, Div. of Technical Information, U.S. Atomic Energy Commission, Washington, D.C. 20545)

19-21. American Mathematical Soc. and Mathematical Assoc. of America, Las Vegas, Nev. (A. B. Willcox, MAA, 1225 Connecticut Ave., NW, Washington, D.C. 20036)

23-27. American Soc. of Heating, Refrigerating, and Air-Conditioning Engineers, New Orleans, La. (A. T. Boggs III, ASHRAE, 345 E. 47 St., New York)

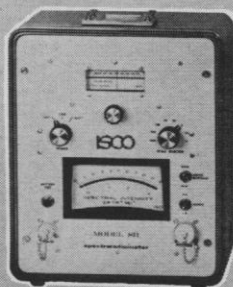
24-26. Aerospace Sciences, 10th mtg., New York, N.Y. (American Inst. of Aeronautics and Astronautics, 1290 Ave. of the Americas, New York 10019)



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24-27. **Environmental Design Research Assoc.**, 3rd annual, Los Angeles, Calif. (W. J. Mitchell, School of Architecture and Urban Planning, Univ. of California, 405 Hilgard Ave., Los Angeles 90024)

27-29. **American College of Surgeons**, sectional mtg., Sydney, Australia. (Communications Div., ACS, 55 E. Erie St., Chicago, Ill. 60611)

27-30. **American College of Psychiatrists**, Coronado, Calif. (P. A. Martin, ACP, 857 Fisher Bldg., Detroit, Mich. 48202)

30-4. **Power Engineering Soc.**, New York, N.Y. (J. W. Beam, Inst. of Electrical and Electronics Engineers, Inc., 345 E. 47 St., New York 10017)

30-7. **Role of Surface Properties in Dosage Form Design and Development**, 7th annual Arden House Conf. on Industrial Pharmacy, Harriman, N.Y. (S. M. Gross, College of Pharmaceutical Sciences, Columbia Univ., 115 W. 68 St., New York 10023)

31-3. **American Assoc. of Physics Teachers**, San Francisco, Calif. (W. F. Johnson, AAPT, 1785 Massachusetts Ave., NW, Washington, D.C. 20036)

31-4. **International Symp. on Information Theory**, Pacific Grove, Calif. (T. Kailath, Dept. of Electrical Engineering, Stanford Univ., Stanford, Calif. 94035)

February

1-3. **Computer-Aided Design and Computer-Aided Manufacturing Conf. and Exhibit**, Soc. of Manufacturing Engineers, Atlanta, Ga. (T. C. Akas, SME, 20501 Ford Rd., Dearborn, Mich. 48128)

1-3. **Conference on Rapid Penetration of Terrestrial Materials**, College Station, Tex. (Penetration Program Committee, Texas Engineering Experiment Sta., Texas A&M Univ., College Station 77843)

3-5. **Association for Hospital Medical Education**, Chicago, Ill. (T. G. Kummer, AHME, 2001 Jefferson Davis Hwy., Arlington, Va. 22202)

4-5. **Problems of the Female Breast as Related to Neoplasms and Reconstruction**, New York, N.Y. (R. K. Snyderman, Memorial Sloan-Kettering Cancer Center, 444 E. 68 St., New York 10021)

5-6. **Medical Education**, 68th annual congr., American Medical Assoc., Chicago, Ill. (C. H. W. Ruhe, AMA Council on Medical Education, 535 N. Dearborn St., Chicago 60610)

5-9. **American Acad. of Allergy**, San Francisco, Calif. (J. O. Kelly, AAA, 225 E. Michigan St., Milwaukee, Wis. 53202)

5-12. **Asian and Pacific Congr. of Gastroenterology**, Manila, Philippines. (Philippine Soc. of Gastroenterology, P.O. Box 2598, Manila)

6-11. **American Soc. of Range Management**, Washington, D.C. (F. T. Colbert, ASRM, 2120 S. Birch St., Denver, Colo. 80222)

6-12. **Chemistry of Natural Products**, 8th intern. symp., New Delhi, India. (S. Rangaswami, Indian National Science Acad., Bahadur Shah Zafar Marg, New Delhi-1)

7-9. **Integrated Optics-Guided Waves Materials Devices**, Optical Soc. of America, Las Vegas, Nev. (OSA, 2100 Pennsylv-

ania Ave., NW, Washington, D.C. 20037)

8-12. **American Group Psychotherapy Assoc.**, New York, N.Y. (L. Kane, AGPA, 1790 Broadway, New York 10019)

9-11. **American Acad. of Occupational Medicine**, Pittsburgh, Pa. (D. Minard, Dept. of Occupational Health, AAOM, 130 DeSoto St., Pittsburgh 15213)

9-15. **International Symp. on the Oceanography of the South Pacific**, Wellington, New Zealand. (Secretary, Natl. Commission for UNESCO, Dept. of Education, Private Bag, Government Bldgs., Wellington)

9-19. **Ground Water Quality and Treatment**, 14th conf., Urbana, Ill. (V. L. Snoeyink, Dept. of Civil Engineering, Univ. of Illinois at Urbana-Champaign, Urbana 61801)

13-17. **Recycle Implementation**, Pacific Grove, Calif. (Engineering Foundation, 345 E. 47 St., New York 10017)

14. **Education, Instruction, Assessment, and Accountability**, New Orleans, La. (S. T. Elder, Dept. of Psychology, Louisiana State Univ. in New Orleans, Lake Front, New Orleans 70122)

14-15. **Psychology of Technical Communication**, Philadelphia, Pa. (Inst. of Electrical and Electronics Engineers, Inc., 345 E. 47 St., New York 10017)

14-16. **Use of Enzymes in Agricultural and Food Industries**, 13th intern. symp., Paris, France. (S  cretariat, XIII  me Symp. International, Commission Internationale des Industries Agricoles et Alimentaires-Bureau International Permanent de Chimie Analytique, 24, rue T  h  ran, Paris 8  )

14-16. **American College of Surgeons**, sectional mtg., St. Louis, Mo. (Communications Div., ACS, 55 E. Erie St., Chicago, Ill. 60611)

16-18. **Australian Electrochemistry Conf.**, 3rd, Terrigal, New South Wales. (D. A. J. Swinkels, B. H. P. Central Research Labs., Shortland, N.S.W. 2307, Australia)

16-18. **Solid-State Circuits Conf.**, Philadelphia, Pa. (Inst. of Electrical and Electronics Engineers, Inc., 345 E. 47 St., New York 10017)

18-19. **Symposium on Regulation of Catecholamine Metabolism in the Sympathetic Nervous System**, New York, N.Y. (I. Saulpaugh, New York Heart Assoc., 2 E. 64 St., New York 10021)

20-23. **American Inst. of Chemical Engineers**, Dallas, Tex. (F. J. Antwerpen, AICE, 345 E. 47 St., New York 10017)

20-24. **American Inst. of Mining, Metallurgical and Petroleum Engineers**, San Francisco, Calif. (J. B. Alford, AIMMPE, 345 E. 47 St., New York 10017)

21-22. **Coastal Zone Pollution Management Symp.**, Charleston, S.C. (B. L. Edge, Rhodes Engineering Research Center, Clemson Univ., Clemson, S.C. 29631)

23. **Applications of Auger Spectroscopy**, London, England. (Meetings Officer, Inst. of Physics, 47 Belgrave Sq., London SW1X 8QX)

23-25. **Society of Professors of Education**, Chicago, Ill. (Miss R. Bayles, Atlanta Univ., Atlanta, Ga.)

23-25. **Research and Training Reactor Utilization**, American Nuclear Soc., Col-

SCIENCE, VOL. 174

lege Station, Tex. (J. D. Randall, Nuclear Science Center, Texas A&M Univ., College Station 77843)

26. Oregon Acad. of Science, Portland. (C. L. Smith, Dept. of Anthropology, Oregon State Univ., Corvallis 97331)

28-3. Medical Data Processing Symp., Toulouse-Pyrenees, France. (E. E. Van Brunt, Permanente Medical Group, Medical Methods Research, 3779 Piedmont Ave., Oakland, Calif. 94611)

March

1-4. American Acad. of Forensic Sciences, Atlanta, Ga. (J. T. Weston, 44 Medical Dr., Salt Lake City, Utah 84113)

1-5. American College of Cardiology, Chicago, Ill. (W. D. Nelligan, ACC, 9650 Rockville Pike, Bethesda, Md. 20014)

2-3. American Astronomical Soc., Div. on Dynamical Astronomy, College Park, Md. (J. D. Mulholland, Dept. of Astronomy, Univ. of Texas, Austin 78712)

2-4. Diagnosis of the Functions in Endocrinology—Methods and Interpretations, 18th symp., German Soc. of Endocrinology, Hannover. (J. Kracht, Pathologisches Institut, Klinikstrasse 32 g, 63 Giessen, Germany)

3-5. American College of Apothecaries, Chicago, Ill. (D. C. Huffman, Univ. of Tennessee, College of Pharmacy, Memphis 38103)

4-10. American Concrete Inst., Dallas, Tex. (ACI, Box 4754 Redford Sta., 22400 W. Seven Mile Rd., Detroit, Mich. 48219)

5-9. Society of Toxicology, Williamsburg, Va. (R. Scala, Esso & Engineering Co., Linden, N.J. 97036)

6-8. National Federation of Science Abstracting and Indexing Services, New York, N.Y. (Miss S. Keenan, NFSAIS, 2102 Arch St., Philadelphia, Pa. 19103)

6-10. Analytical Chemistry and Applied Spectroscopy, 23rd Pittsburgh conf., Cleveland, Ohio. (H. W. Fracek, Fisher Scientific Co., 585 Alpha Dr., Pittsburgh, Pa. 15238)

6-10. Neutron Inelastic Scattering, 5th symp., Intern. Atomic Energy Agency, Grenoble, France. (J. H. Kane, Div. of Technical Information, U.S. Atomic Energy Commission, Washington, D.C. 20545)

6-11. International Acad. of Pathology, Chicago, Ill. (Miss J. Graves, Intersociety Committee on Pathology Information, Inc., College of American Pathologists, 9650 Rockville Pike, Bethesda, Md. 20014)

9-10. Advanced Analytical Methods for the Clinical Laboratory, Oak Ridge, Tenn. (C. D. Scott, Oak Ridge National Lab., P.O. Box X, Oak Ridge 37830)

9-10. American Soc. for Clinical Pharmacology and Therapeutics, Houston, Tex. (R. T. Smith, 1718 Gallagher Rd., Norristown, Pa. 19401)

9-11. Geological Soc. of America, Northeast Section, annual mtg., Buffalo, N.Y. (E. J. Buehler, Dept. of Geological Sciences, State Univ. of New York at Buffalo, Buffalo, 14207)

10-12. National Wildlife Federation, Mexico City, Mexico. (T. L. Kimball, NWF, 1412 16th St., NW Washington, D.C. 20036)

11-18. American Assoc. of Pathologists and Bacteriologists, American Assoc. of Neuropathologists, and Pediatric Pathology Club (joint), Cincinnati, Ohio. (A. J. French, 1335 E. Catherine St., Ann Arbor, Mich. 48104)

12-17. American Soc. of Photogrammetry, Washington, D.C. (L. P. Jacobs, 105 N. Virginia Ave., Falls Church, Va. 20046)

13-17. International Union against Cancer Conf. (melanoma and skin cancer, leukemia). Sydney, Australia. (Intern. Cancer Conf., GPO Box 475, Sydney, NSW)

13-17. California Membrane Conf., Squaw Valley. (C. F. Fox, Dept. of Bacteriology, Univ. of California, Los Angeles 90024)

14. Acoustic Emission, London, England. (Meetings Officer, Inst. of Physics, 47 Belgrave Sq., London SW1X 8QX)

14-16. Mineral Waste Utilization, 3rd symp., U.S. Bureau of Mines and IIT Research Inst., Chicago, Ill. (M. A. Schwartz, IIT Research Inst., 10 W. 35 St., Chicago 60616)

19-22. American Soc. of Limnology and Oceanography, Tallahassee, Fla. (G. W. Saunders, Jr., Dept. of Zoology, Univ. of Michigan, Ann Arbor 48104)

19-25. Council for Exceptional Children, 50th annual intern. conv., Washington, D.C. (W. C. Geer, CEC, Suite 900, Jefferson Plaza, 1411 S. Jefferson Davis Highway, Arlington, Va. 22202)

20-22. Physical Electronics Conf., 32nd annual, Albuquerque, N.M. (R. L. Schwoebel, Dept. 5330, Sandia Labs., Albuquerque 87115)

20-23. American Assoc. of Dental Schools, Las Vegas, Nev. (B. F. Miller, 211 E. Chicago Ave., Chicago, Ill. 60611)

20-23. Institute of Electrical and Electronics Engineers, New York, N.Y. (D. G. Fink, IEEE, 345 E. 47 St., New York 10017)

20-23. American Soc. of Neurochemistry, 3rd natl., Seattle, Wash. (W. L. Stahl, Dept. of Medicine (Neurology), School of Medicine, Univ. of Washington, Seattle 98105)

20-24. Use of Isotopes in Studies on the Physiology of Domestic Animals with Special Reference to Hot Climates, Intern. Atomic Energy Agency, Athens, Greece. (J. H. Kane, Div. of Technical Information, U.S. Atomic Energy Commission, Washington, D.C. 20545)

21-23. Control of Hazardous Material Spills Conf., Houston, Tex. (H. N. Myrick, Univ. of Houston, 3801 Cullen Blvd., Houston 77004)

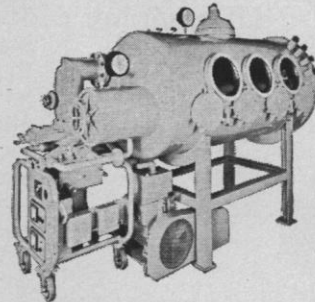
23-25. Quality of Life, American Medical Assoc., Chicago, Ill. (E. O. Ellis, AMA, 535 N. Dearborn St., Chicago 60610)

23-25. American Philosophical Assoc., San Francisco, Calif. (A. Pasch, APA, 117 Lehigh Road, College Park, Md. 20742)

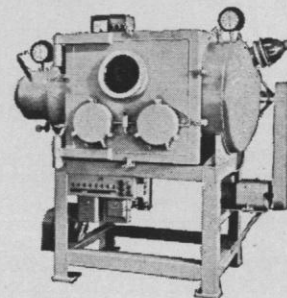
23-25. Seismological Soc. of America, Honolulu, Hawaii. (D. Tocher, P.O. Box 826, Berkeley, Calif. 94701)

23-26. International Assoc. for Dental Research, North American Div., Las Vegas, Nev. (A. R. Frechette, IADR, 211 E. Chicago Ave., Chicago, Ill. 60611)

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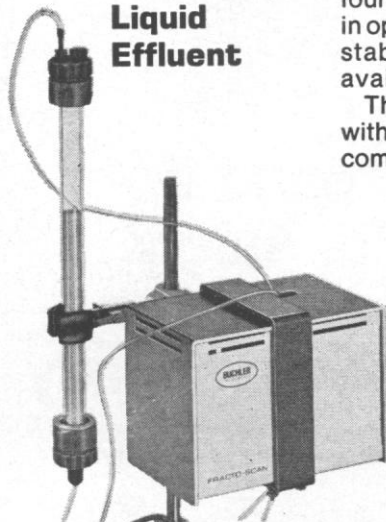
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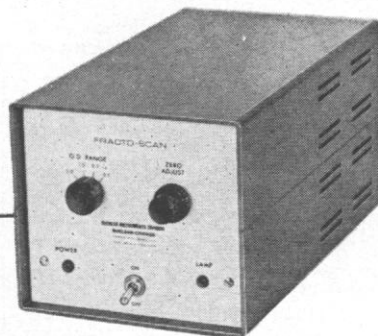
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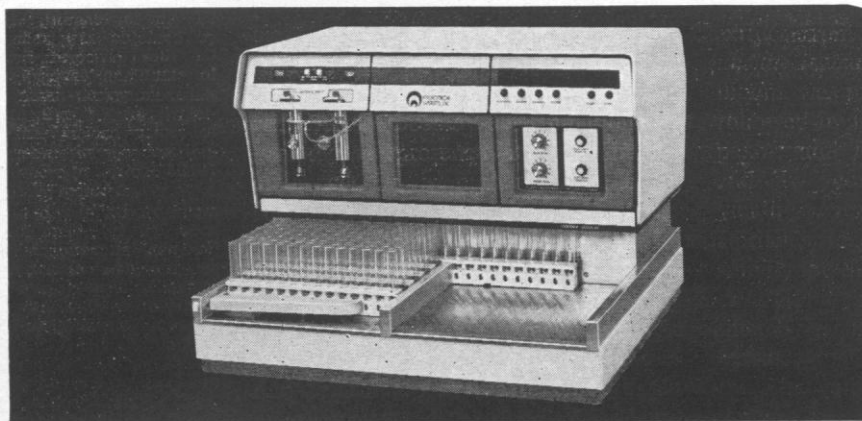
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26-29. **Environmental Mutagen Soc.**, Cherry Hill, N.J. (W. W. Nichols, Inst. for Medical Research, Copewood St., Camden, N.J. 08103)

27-30. **Meteorological Observations and Instrumentation**, 3rd symp., Air Force Cambridge Research Labs., San Diego, Calif. (A. S. Carten, Jr., AFCRL (LX/1124), L. G. Hanscom Field, Bedford, Mass.)

April

3-6. **National Assoc. for Research in Science Teaching**, Chicago, Ill. (R. W. Lefler, Dept. of Physics, Purdue Univ., Lafayette, Ind. 47907)

3-7. **American Educational Research Assoc.**, Chicago, Ill. (R. A. Derheimer, AERA, 1126 16th St., NW, Washington, D.C. 20036)

3-8. **American College of Radiology**, Bal Harbour, Fla. (W. C. Tronach, ACR, 20 N. Wacker Dr., Chicago, Ill. 60606)

4-6. **Symposium on Computer-Communications Networks and Teletraffic**, 22nd annual intern. symp., New York, N.Y. (J. Fox, Polytechnic Inst. of Brooklyn, MRI Symp. Committee, 333 Jay St., Brooklyn, N.Y. 11201)

4-7. **American Assoc. of Anatomists**, Dallas, Tex. (R. T. Woodburne, Dept. of Anatomy, Univ. of Michigan, 4643 Medical Science II, Ann Arbor 48104)

4-8. **Institute of Management Sciences**, Houston, Tex. (Mrs. M. R. DeMelim, IMS, 146 Westminster St., Providence, R.I.)

5-7. **Reliability Physics Symp.**, 10th annual, Inst. of Electrical and Electronics Engineers, Las Vegas, Nev. (H. Lauffenburger, IITRI, 10 W. 35 St., Chicago, Ill. 60616)

5-7. **Phase Analysis: Identification and Quantitative Determination**, Hull, England. (Meetings Officer, Inst. of Physics, 47 Belgrave Sq., London SW1X 8QX)

5-8. **American Orthopsychiatric Assoc.**, 49th annual, Detroit, Mich. (Miss M. F. Langer, AOA, 1790 Broadway, New York 10019)

5-9. **Learning and Culture**, Soc. for Applied Anthropology, American Ethnological Soc., and Council on Anthropology and Education (joint), Montreal, Canada. (Miss N. Gonzalez, Dept. of Anthropology, Univ. of Iowa, Iowa City)

6-8. **Florida Acad. of Sciences**, Winter Park. (R. W. Long, Dept. of Biology, Univ. of South Florida, Tampa 33620)

6-8. **Association of Southeastern Biologists**, Mobile, Ala. (Miss M. L. Gilbert, Biology Dept., Florida Southern College, Lakeland 33802)

7-8. **Two-Year College Chemistry Conf.**, 12th annual natl., Boston, Mass. (W. T. Mooney, Jr., Dept. of Chemistry, El Camino College, Calif. 90506)

7-11. **National Science Teachers Assoc.**, New York, N.Y. (R. H. Carleton, NSTA, 1201 16th St., Washington, D.C. 20036)

9-14. **American Soc. of Biological Chemists**, Atlantic City, N.J. (R. A. Harte, ASBC, 9650 Rockville Pike, Bethesda, Md. 20014)

9-14. **American Chemical Soc.**, Boston, Mass. (F. T. Wall, ACS, 1155 16th St., NW, Washington, D.C. 20036)

9-14. Federation of American Societies for **Experimental Biology**, Atlantic City, N.J. (Miss A. Nixon, FASEB, 9650 Rockville Pike, Bethesda, Md. 20014)

9-14. American Soc. for **Experimental Pathology**, Atlantic City, N.J. (R. E. Knutti, ASEP, 9650 Rockville Pike, Bethesda, Md. 20014)

9-14. American Soc. of **Pharmacology and Experimental Therapeutics**, Atlantic City, N.J. (E. B. Cook, ASPET, 9640 Rockville Pike, Bethesda, Md. 20014)

10-12. **Acoustical Holography**, 4th intern. symp., Inst. of Electrical and Electronics Engineers, Inc., Santa Barbara, Calif. (Meetings Officer, IEEE, 345 E. 47 St., New York 10017)

10-13. International Conf. on **Magnetism** (Intermag), 10th, Inst. of Electrical and Electronics Engineers, Kyoto, Japan. (D. H. Looney, Bell Telephone Laboratories, Inc., Whippany, N.J. 07981)

10-14. Modern Trends in **Activation Analysis**, 4th intern. conf., Saclay, France. (P. L. Leveque, Centre d'Etudes Nucléaires de Saclay, B. P. No. 2, 91-Gif-sur-Yvette, France)

10-14. American Assoc. of **Immunologists**, Atlantic City, N.J. (Mrs. B. B. Reines, AAI, 9650 Rockville Pike, Bethesda, Md. 20014)

10-14. **Nuclear Activation Techniques in the Life Sciences**, Intern. Atomic Energy Agency, Ljubljana, Yugoslavia. (IAEE, Kärntnerring 11-13, A-1011 Vienna, Austria)

10-15. **Optical Soc. of America**, New York, N.Y. (Miss M. E. Warga, OSA, 2100 Pennsylvania Ave., NW, Washington, D.C. 20037)

11-13. Conference on **Phosphorus in Fresh Water and the Marine Environment**, Intern. Assoc. on Water Pollution Research, London, England. (K. J. Ives, Dept. of Civil and Municipal Engineering, University College, London, Gower St., London, W.C.1)

12-14. **Machine Perception of Patterns and Pictures**, Teddington, Middlesex, England. (Meetings Officer, Inst. of Physics and Physical Soc., 47 Belgrave Sq., London SW1X 8QX, England)

13-15. American Assoc. of **Physical Anthropologists**, Lawrence, Kans. (E. I. Fry, Box 339, Southern Methodist Univ., Dallas, Tex. 75222)

13-15. **Population Assoc. of America**, Toronto, Ont., Canada. (J. W. Brackett, PAA, P.O. Box 14182, Benjamin Franklin Sta., Washington, D.C. 20044)

14. **Utah Acad. of Sciences, Arts and Letters**, Provo. (K. T. Slack, Marriott Library, Univ. of Utah, Salt Lake City 84112)

14-16. American **Psychosomatic Soc.**, 29th annual, Boston, Mass. (H. Weiner, APS, 265 Nassau Rd., Roosevelt, N.Y. 11575)

15-18. International **Filter Symp.**, Los Angeles, Calif. (G. C. Temes, 7732 Boelter Hall, Univ. of California, Los Angeles 90024)

16-19. National Council of **Teachers of Mathematics**, 50th annual, Chicago, Ill. (J. D. Gates, NCTM, 1201 16th St., Washington, D.C. 20036)

16-20. American Assoc. of **Cereal Chemists**, St. Louis, Mo. (R. J. Tarleton,



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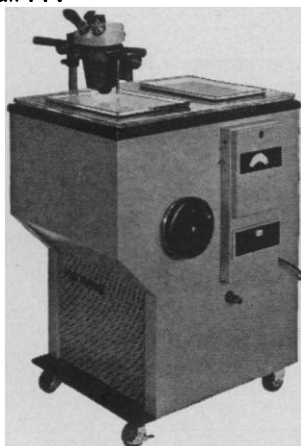
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16-20. American Assoc. of Immunologists, Atlantic City, N.J. (H. Metzger, 9650 Rockville Pike, Bethesda, Md. 20014)

17-19. Society of Economic Paleontologists and Mineralogists, Denver, Colo. (Mrs. R. Tener, P.O. Box 979, Tulsa, Okla. 74101)

17-19. American Assoc. of Petroleum Geologists, Denver, Colo. (N. C. Smith, Box 979, Tulsa, Okla. 74101)

17-20. Atomic and Molecular Physics Conf., 4th, Sussex, England. (Meetings Officer, Inst. of Physics, 47 Belgrave Sq., London SW1X 8QX)

17-20. Medical Advisers in the Pharmaceutical Industry, intern. conf., London, England. (W. L. Burland, Conf. Management, 29 Old Bond St., London, W.1)

17-21. Dosimetry Techniques Applied to Agriculture, Industry, Biology and Medicine, Intern. Atomic Energy Agency, Prague, Czechoslovakia. (J. H. Kane, Div. of Technical Information, U.S. Atomic Energy Commission, Washington, D.C. 20545)

17-21. Inner Shell Ionization Phenomena, intern. conf., Atlanta, Ga. (R. W. Fink, School of Chemistry, Georgia Inst. of Technology, Atlanta 30332)

18-21. Acoustical Soc. of America, Buffalo, N.Y. (Miss B. H. Goodfriend, ASA, 335 E. 45 St., New York 10017)

20-22. Louisiana Acad. of Sciences, Baton Rouge. (B. F. Dowden, Dept. of Biological Sciences, Louisiana State Univ., Shreveport 71105)

20-22. Ohio Acad. of Science, Marietta. (J. H. Melvin, OAS, 445 King Ave., Columbus)

20-22. American Assoc. of Colleges of Pharmacy, Houston, Tex. (C. W. Bliven, AACP, 850 Sligo Ave., Silver Spring, Md. 20910)

20-23. Cooper Ornithological Soc., Las Cruces, N.M. (W. H. Behle, Dept. of Biology, Univ. of Utah, Salt Lake City 84112)

21-22. Iowa Acad. of Science, Iowa City. (R. W. Hanson, Dept. of Chemistry, Univ. of Northern Iowa, Cedar Falls 50613)

21-22. North Carolina Acad. of Science, Greenville. (J. G. Boyette, Dept. of Biology, East Carolina Univ., Greenville, 27834)

21-22. Modern Optics, American Physical Soc., New York State Section, Poughkeepsie, N.Y. (D. T. Teaney, IBM Research Center, P.O. Box 218, Yorktown Heights, N.Y. 10598)

22. American Soc. of Hospital Pharmacists, Houston, Tex. (J. A. Oddis, 4630 Montgomery Ave., Bethesda, Md. 20014)

22-28. American Pharmaceutical Assoc., Houston, Tex. (W. S. Apple, APA, 2215 Constitution Ave., NW, Washington, D.C.)

23-24. Congress on Environmental Health, American Medical Assoc., Los Angeles, Calif. (F. W. Barton, Council on Environmental and Public Health, 535 N. Dearborn St., Chicago, Ill. 60610)

23-26. Association of American Geographers, Kansas City, Kan. (J. W.

Nystrom, AAG, 1146 16th St., NW, Washington, D.C. 20036)

23-26. American Oil Chemists' Soc., Los Angeles, Calif. (J. C. Lyon, 508 S. 6 St., Champaign, Ill. 61820)

23-28. American Soc. for Microbiology, Philadelphia, Pa. (R. W. Sarber, ASM, 1913 Eye St., NW, Washington, D.C. 20006)

24-26. Speech Communications and Processing, Inst. of Electrical and Electronics Engineers, Inc., Boston, Mass. (W. D. Chapman, IBM Corp., P.O. Box 12275, Dept. E82, Bldg. 060, Research Triangle Park, N.C. 27709)

24-26. Frontiers in Education, Inst. of Electrical and Electronics Engineers, Inc., Tucson, Ariz. (IEEE, 345 E. 47 St., New York 10017)

24-26. Reactor Materials Performance, American Nuclear Soc., Richland, Wash. (T. T. Claudson, Pacific Northwest Lab., Battelle Memorial Inst., P.O. Box 999, Richland 99352)

24-27. Chemical Vapor Deposition, American Nuclear Soc., Salt Lake City, Utah. (F. A. Glaski, Fansteel Inc., 10258 Norris Ave., Pacoima, Calif. 91331)

24-27. American Physical Soc., Washington, D.C. (W. W. Havens, Jr., APS, 335 E. 45 St., New York 10017)

24-28. Society of Manufacturing Engineers, Chicago, Ill. (R. W. Taylor, 20501 Ford Rd., Dearborn, Mich. 48128)

24-29. Inter-American Congr. of Cardiology, San Francisco, Calif. (A. M. Bennett, American Heart Assoc., 44 E. 23 St., New York 10019)

24-29. American Acad. of Neurology, Palm Beach, Fla. (C. N. Patterson, 1110 W. Main St., Durham, N.C. 27701)

24-6. Psychotherapy Week, 22nd, Assoc. for Psychotherapeutic Training, Lindau, Germany. (H. Stolze, Lindauer Psychotherapiewochen, Adalbert-Stifterstrasse 31, D-8 Munchen 81, Germany)

26-28. Biometric Soc., Eastern North American regional, Ames, Iowa. (F. B. Cady, Jr., Dept. of Statistics, Univ. of Kentucky, Lexington 40506)

26-28. Operations Research Soc. of America, New Orleans, La. (R. M. Oliver, Operations Research Center, Univ. of California, Berkeley 94720)

27-29. Eastern Psychological Assoc., Boston, Mass. (W. W. Cumming, 353 Schermerhorn Hall, Columbia Univ., New York 10027)

27-29. Red Cell Metabolism and Function, 2nd intern. conf., Ann Arbor, Mich. (G. F. Brewer, Dept of Human Genetics, Univ. of Michigan, Ann Arbor 48104)

27-30. Association of Clinical Scientists, Elkhart, Ind. (F. W. Sunderman, Jr., Drawer B, Newington, Conn. 06111)

28. Georgia Acad. of Science, Athens. (E. A. Stanley, Dept. of Geology, Univ. of Georgia, Athens 30601)

28-29. Society for Investigative Dermatology, Atlantic City, N.J. (J. S. Strauss, Boston Univ. Medical Center, 80 E. Concord St., Boston, Mass. 02118)

28-29. Nebraska Acad. of Sciences, Lincoln. (C. B. Shultz, 101 Morrill Hall, Univ. of Nebraska, Lincoln 69508)

28-29. South Dakota Acad. of Science, Aberdeen. (W. L. Hoffman, Physics Dept., Univ. of South Dakota, Vermillion 57069)