

which contribute to the selectivity for certain neoplasms of drugs known to inhibit this enzyme (C. A. Nichol, Roswell Park Memorial Institute). Drug sensitivity is related to capacity for cellular uptake of amethopterin in tumor systems, and tissues vary with respect to the tetrahydrofolate-requiring pathways most vital to their growth.

The formation of tetrahydrofolate by dihydrofolate reductase is subject to intricate regulatory control (J. J. Burchall, Wellcome Research Laboratories). Since the formation of purines and pyrimidines is extensively controlled, the presence of an additional set of regulatory devices in the folate pathway may function to divert a limited supply of the coenzymes to the critical requirements of the cell. In human leukemia, folate metabolism provides an attacking point to rational chemotherapy (J. R. Bertino, Yale University). In man, an increase in dihydrofolate reductase accompanies treatment with methotrexate in both normal and leukemic leukocytes, and in erythrocytes, within a few days after treatment is started. This increase of enzyme activity with methotrexate represents a type of cofactor induction.

C. G. Smith (Squibb Institute for Medical Research) analyzed the role of cyclic adenosine monophosphate (AMP) in metabolic regulation. Evidence implicating cyclic AMP in a variety of hormone actions was outlined by R. W. Butcher (Vanderbilt University), who compared these results with the effects of cyclic guanosine monophosphate (GMP), which is the only other cyclic 3',5'-nucleotide identified in nature. The two nucleotides differ with respect to hormonal factors (hypophysectomy, thyroidectomy, adrenalectomy, and administration of thyroxine, hydrocortisone, or glucagon), which alter their excretion in the urine.

Gluconeogenesis from lactate in the perfused liver is stimulated by glucagon and catecholamines, an effect which appears to be mediated by cyclic AMP. Insulin deficiency causes an elevation of cyclic AMP in the liver in vivo, which can be reversed by insulin treatment (J. H. Exton, Vanderbilt University).

The hormonal and nonhormonal control of glycogen synthesis depends on the regulation of transferase phosphatase and kinase (J. Larner, University of Minnesota). The two forms of the transferase enzyme are interconverted by enzymes which catalyze the phosphorylation and dephosphorylation of the two forms of transferase. The site of the

nonhormonal control of glycogen synthesis is identified as the phosphatase, whereas the site of the hormonal control by insulin and epinephrine is the kinase.

In the direction and magnitude of its response to glucose and insulin, rat liver adenylate kinase resembles the key gluconeogenic enzymes, whose activities are decreased by insulin administration (S. Weinhouse, Temple University). This newly discovered control of adenylate kinase may have a regulatory effect on gluconeogenesis.

Y. Miura (Chiba, Japan) reported that DNA-dependent RNA polymerase is found both in chromatin and nucleolar fractions of normal rat liver cells, as well as in rat ascites hepatoma cells. Nucleolar RNA polymerase was more sensitive than chromatin RNA polymerase to the administration of steroid hormone. In hepatoma cells, chromatin RNA polymerase was rather insensitive to the steroid hormone. The important problem of energy regulation in rat liver and hepatomas was explored by S. Weinhouse. He pointed out that if competition for adenosine diphosphate (ADP) plays a part in regulating glycolysis in hepatomas, the low activities of pyruvate kinase in the well-differentiated tumors should favor utilization of ADP by the respiratory acceptor system, and this would lower glycolysis further. In contrast, the high pyruvate kinase levels of the poorly differentiated, rapidly growing tumors should favor preferential utilization of ADP by this enzyme and this should enhance glycolysis. He suggested that the characteristically high glycolytic activity of the rapidly growing tumors may in general be attributable to low levels of respiratory ADP acceptor system in combination with high pyruvate kinase activity.

The symposium was sponsored by Indiana University School of Medicine, Burroughs Wellcome and Co., Hoffmann-LaRoche, Eli Lilly and Co., Merck Sharp & Dohme, Squibb Institute for Medical Research, and the Upjohn Co. The full text of the papers, edited by the chairman of the conference, George Weber, will be published in the spring of 1968 as volume 6 of *Advances in Enzyme Regulation* (Pergamon Press). Volumes 1 through 5 of this series of conferences on enzyme regulation in mammalian systems presented the proceedings of the previous five symposia.

GEORGE WEBER

Pharmacology Department, Indiana University School of Medicine, Indianapolis 46202

Calendar of Events

National Meetings

April

20-25. American Ceramic Soc., 70th annual, Chicago, Ill. (R. S. Sheldon, 4055 N. High St., Columbus, Ohio 43214)

21-22. American Broncho-Esophagological Assoc., Hollywood, Fla. (J. R. Ausband, Bowman Gray School of Medicine, Winston-Salem, N.C. 27103)

21-22. American Soc. for Artificial Internal Organs, Philadelphia, Pa. (P. M. Galletti, Div. of Biological Medical Science, Brown Univ., Providence, R.I. 02912)

21-24. American Oil Chemists Soc., Memphis, Tenn. (Administrative Assistant, The Society, 35 E. Wacker Drive, Chicago, Ill. 60600)

21-24. American Orthopaedic Assoc., Boca Raton, Fla. (S. W. Banks, Executive Secretary, 29 E. Madison St., Chicago, Ill. 60602)

21-24. Radiation Research Soc., 16th annual, Houston, Tex. (F. Smith, Biology Dept., American Univ., Washington, D.C. 20016)

21-24. Society of Head and Neck Surgeons, Los Angeles, Calif. (H. W. Baker, 2250 NW Flanders St., Portland, Ore. 97210)

21-25. American Assoc. of Cereal Chemists, 53rd annual, Cincinnati, Ohio. (Executive Secretary, The Association, 1955 University Ave., St. Paul, Minn. 55104)

21-25. Paper Coating Conf., Miami Beach, Fla. (K. G. Chesley, Technical Assoc. of Pulp and Paper Industries, 360 Lexington Ave., New York 10017)

21-26. American Laryngological, Rhinological and Otolological Soc., Hollywood Beach, Fla. (V. R. Alfaro, 916 19th St., NW, Washington, D.C. 20006)

22-23. Chemical and Petroleum Instrumentation Symp., 9th natl., Wilmington, Del. (E. M. Brandle, Leeds and Northrup, 2625 Concord Pike, Wilmington 19803)

22-24. American Assoc. of Thoracic Surgery, Pittsburgh, Pa. (A. Hanvey, 311 Carondelet Building, St. Louis, Mo. 63105)

22-24. Association of Iron and Steel Engineers, spring conf., St. Louis, Mo. (Managing Director, The Association, 1010 Empire Building, Pittsburgh 22, Pa.)

22-25. American Assoc. of Petroleum Geologists, Oklahoma City, Okla. (E. P. Kerr, Jr., Mobil Oil Co., Box 1828, Oklahoma City 73101)

22-25. American College of Obstetricians and Gynecologists, 16th annual clinical mtg., Chicago, Ill. (D. C. Sommers, 79 W. Monroe St., Chicago 60603)

22-25. American Industrial Health Conf., San Francisco, Calif. (C. D. Bridges, Industrial Medical Assoc., 55 E. Washington, Chicago, Ill. 60602)

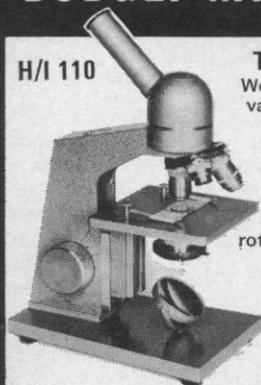
22-25. American Physical Soc., Washington, D.C. (W. W. Havens, Jr., Columbia Univ., New York 10027)

22-26. American Soc. of Tool and Manufacturing Engineers, Detroit, Mich. (General Manager, The Society, 10700 Puritan Ave., Detroit, Mich.)

22-27. American Acad. of Neurology, 20th annual, Chicago, Ill. (S. A. Nelson, 4005 W. 65 St., S., Minneapolis, Minn.)

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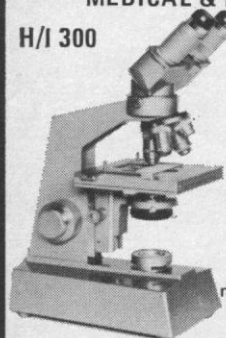


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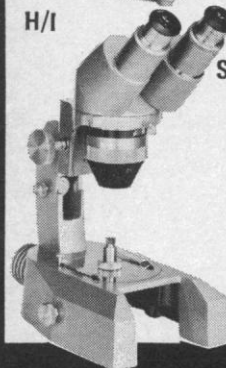
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22-10. **Laboratory Methods in Medical Parasitology**, Atlanta, Ga. (U.S. Public Health Service, National Communicable Disease Center, Atlanta 30333)

22-24. American Assoc. of **Physical Anthropologists** and Soc. for the Study of **Human Biology**, Detroit, Mich. (G. W. Lasker, Dept. of Anatomy, Wayne State Univ., Detroit 48207)

23-24. **Relay Conference**, 16th annual, Stillwater, Okla. (D. R. Wilson, School of Electrical Engineering, Stillwater 74074)

23-25. **American Power Conf.**, 30th annual, Chicago, Ill. (Director, American Power Conf., Illinois Inst. of Technology, Chicago 60616)

23-25. **Institute of Electrical and Electronics Engineers**, New Orleans, La. (R. M. Emberson, 345 E. 47 St., New York 10017)

24-26. **Space Age Facilities**, 2nd conf., Los Angeles, Calif. (W. H. Wisley, American Soc. of Civil Engineers, 345 E. 47 St., New York 10017)

25. **American Soc. for Head and Neck Surgery**, Hollywood, Fla. (E. W. Cocke, Jr., 899 Madison Ave., Memphis, Tenn. 38103)

25-26. **American Geriatrics Soc.**, New Orleans, La. (E. Henderson, Executive Director, 10 Columbus Circle, New York 10019)

25-27. **American Cleft Palate Assoc.**, Miami Beach, Fla. (D. R. Bzoch, Dept. of Communicative Disorders, College of Health Related Professions, Univ. of Florida, Gainesville 32603)

25-27. **Cineradiology**, 6th symp., Rochester, N.Y. (R. Gramiak, Diagnostic Radiology, Univ. of Rochester Medical Center, Rochester 14620)

25-27. **Molecular Basis of Odor**, San Francisco, Calif. (Letters and Science Extension, Univ. of California, 2223 Fulton St., Berkeley 94720)

25-27. **American Acad. of Physical Medicine and Rehabilitation**, Chicago, Ill. (C. C. Herold, 30 N. Michigan Ave., Chicago 60602)

25-27. **American Assoc. of University Professors**, Washington, D.C. (B. H. Davis, AAUP, 1785 Massachusetts Ave., NW, Washington, D.C. 20036)

25-27. **Wildflower Pilgrimage**, 18th annual, Gatlinburg, Tenn. (Dept. of Botany, Univ. of Tennessee, Knoxville 37916)

26-27. **Applications of Lasers to Photography and Information Handling**, New York, N.Y. (K. T. Lassiter, Eastman Kodak Co., Dept. 942, Rochester, N.Y. 14650)

26-27. **Biochemical Co-evolution**, 29th annual biology colloquium, Corvallis, Ore. (W. C. Denison, Box 689, Corvallis 97330)

26-27. **Comparative Endocrinology**, northeast regional mtg., Boston, Mass. (N. B. Clark, Biological Sciences, Univ. of Connecticut, College of Liberal Arts and Sciences, Storrs 06268)

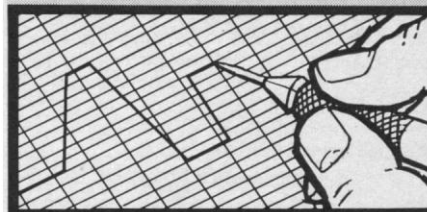
26-27. **Indiana Acad. of Science**, Wabash. (J. R. Gammon, Dept. of Zoology, DePauw Univ., Greencastle, Ind. 46135)

26-28. **Wisconsin Acad. of Sciences, Arts and Letters**, Eau Claire. (A. Suppan, School of Fine Arts, Univ. of Wisconsin-Milwaukee, Milwaukee)

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26-30. **Industrial Gas Cleaning Inst.**, 9th annual meeting, Point Clear, Ala. (H. R. Herington, Executive Secretary, Industrial Gas Cleaning Inst, Inc., Box 448, Rye, N.Y. 10580)

27. **American Medical Electroencephalographic Assoc.**, Chicago, Ill. (M. L. Towler, Secretary-Treasurer, 200 University Boulevard, Galveston, Tex. 77550)

27-28. **Ceramic Engineers**, Chicago, Ill. (F. Reid, American Ceramic Soc., 4055 N. High St., Columbus, Ohio)

27-1. **American Acad. of Facial Plastic and Reconstructive Surgery**, Hollywood Beach, Fla. (J. R. Anderson, 1111 Tulane Ave., New Orleans, La. 70112)

28. **American Assoc. of Electromyography and Electrodiagnosis**, 15th annual, Chicago, Ill. (E. W. Johnson, Secretary-Treasurer, 410 W. 10, Columbus, Ohio 43210)

28-29. **American Laryngological Assoc.**, Hollywood, Calif. (L. G. Richards, 12 Clovelly Road, Wellesley Hills, Mass.)

28-1. **American Assoc. of Plastic Surgeons**, Houston, Tex. (C. W. Monroe, 715 Lake St., Oak Park, Ill. 60301)

28-1. **Fluid Controls Inst., Inc.**, spring meeting, Hot Springs, Va. (The Institute, P.O. Box 1485, Pompano Beach, Fla. 33061)

29-30. **Combustion Inst.**, western states section spring mtg., Pasadena, Calif. (G. S. Bahn, 16902 Bollinger Drive, Pacific Palisades, Calif. 90272)

29-30. **Environmental Health Problems**, 5th congr., Chicago, Ill. (AMA Dept. of Environmental Health, 535 N. Dearborn St., Chicago 60610)

29-30. **Fiber Optics Seminar**, Baltimore, Md. (Society of Photo-optical Instrumentation Engineers, 1716 S. Catalina Ave., P.O. Box 288, Redondo Beach, Calif. 90277)

29-1. **Association for Research Ophthalmology**, Tampa, Fla. (H. E. Kaufman, Dept. of Ophthalmology, Univ. of Florida College of Medicine, Gainesville 32601)

29-1. **Dose Rate in Mammalian Radiation Biology**, symp., Oak Ridge, Tenn. (D. G. Brown, UT-AEC Agricultural Research Lab., 1299 Bethel Valley Rd., Oak Ridge 37830)

29-1. **Institute of Environmental Sciences**, annual technical mtg. and equipment exposition, St. Louis, Mo. (H. F. Sander, 940 E. Northwest Highway, Mount Prospect, Ill.)


29-1. **Plant Engineering and Maintenance Conf.**, Kansas City, Mo. (A. B. Conlin, Jr., Meetings Manager, 345 E. 47 St., New York 10017)

29-2. **American Acad. of Pediatrics**, New Orleans, La. (E. H. Christopherson, Executive Secretary, 1801 Hinman Ave., Evanston, Ill. 60204)

29-2. **Audio Engineering Soc., Inc.**, 34th conv., Los Angeles, Calif. (D. B. Davis, Altec Lansing, 1515 S. Manchester Ave., Anaheim, Calif. 92803)

29-3. **Aeronautic Mtg. and Production Forum**, New York, N.Y. (W. I. Marble, Manager, Meetings Division, 485 Lexington Ave., New York 10017)

29-3. **Casting Congr. and Exposition**, Cleveland, Ohio. (American Foundrymen's Soc., Golf and Wolf Rds., Des Plaines, Ill. 60016)



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30-2. Institute of Management Sciences, American mtg., San Francisco, Calif. (R. Van Horn, RAND Corp., 1700 Main St., Santa Monica, Calif.)

30-2. Spring Joint Computer Conf., Atlantic City, N.J. (H. G. Asmus, Executive Secretary, 345 E. 47 St., New York 10017)

30-3. American College Health Assoc., Minneapolis, Minn. (L. D. Stauffer, Executive Secretary, Box 9117, Univ. of Miami Branch, Coral Gables, Fla. 33124)

30-4. American Assoc. on Mental Deficiency, Boston, Mass. (J. J. Noone, Executive Director, 5201 Connecticut Ave., NW, Washington, D.C. 20015)

May

1-2. American Pediatric Soc., Atlantic City, N.J. (C. D. Cook, 333 Cedar St., New Haven, Conn.)

1-3. Operations Research Soc. of America, 33rd natl., San Francisco, Calif. (F. L. Weldon, 3410 Kettering Ct., San Mateo, Calif.)

2-3. American Soc. of Naval Engineers, Washington, D.C. (The Society, Suite 507, 1012 14th St., NW, Washington, D.C. 20005)

2-4. American College of Clinical Pharmacology and Chemotherapy, 5th annual, Atlantic City, N.J. (Secretary, American College of Clinical Pharmacology and Chemotherapy, 230 North Broad St., Philadelphia, Pa. 19102)

2-4. Prevention in Cardiology, Rochester, Minn. (H. Blackburn, Stadium Gate 27, Univ. of Minnesota, Minneapolis 55455)

3-4. Physical Medicine and Rehabilitation, Northwest Assoc., Palo Alto, Calif. (J. C. Montero, Div. of Rehabilitation Medicine, Stanford Univ. School of Medicine, Palo Alto 94394)

3-4. Society for Pediatric Research, Atlantic City, N.J. (Secretary, The Society, % Dept. of Pediatrics, J. H. Miller Health Center, Univ. of Florida, Gainesville, Fla.)

3-5. Parts, Materials, and Packaging Technical Conf., Washington, D.C. (W. Hepner, Electronic Industries Assoc., 2001 Eye St., NW, Washington, D.C. 20006)

4. American Society for Clinical Nutrition, Atlantic City, N.J. (A. B. Eisenstein, Secretary-Treasurer, The Society, 818 S. Meramec Ave., St. Louis, Mo. 63105)

4-5. Economics and Evaluation Symp., Dallas, Tex. (J. A. Chrichton, 1100 Vaughan Bldg., Dallas 75201)

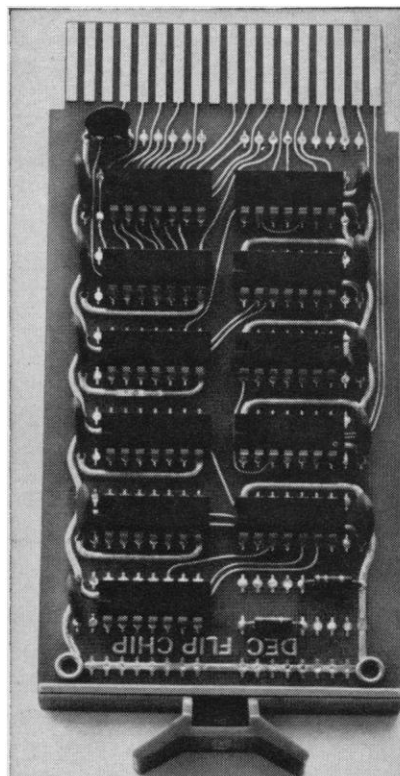
4-9. American Soc. of Planning Officials, natl. planning conf., San Francisco, Calif. (The Society, 1313 E. 60 St., Chicago, Ill. 60637)

5. American Federation for Clinical Research, annual mtg., Atlantic City, N.J. (J. E. Bryan, Executive Secretary, AFRC, 2000 P St., NW, Washington, D.C. 20036)

5-7. American Assoc. of State Geologists, 60th annual, Tuscaloosa, Ala. (T. A. Simpson, Assistant State Geologist, Geological Survey of Alabama, P.O. Drawer O, University 35468)

5-8. American Inst. of Chemical Engineers, 64th natl., Tampa, Fla. (R. W. Fahien, Univ. of Florida, Gainesville)

5-8. Industrial Research Inst., Boca Raton, Fla. (G. W. McBride, Secretary-Treasurer, The Institute, 100 Park Ave., New York 10017)



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5-8. American Soc. of **Lubrication Engineers**, annual mtg., Cleveland, Ohio. (D. B. Sanberg, Executive Secretary, The Society, 838 Busse Highway, Park Ridge, Ill. 60068)

5-8. American Soc. of **Maxillofacial Surgeons**, annual mtg., Philadelphia, Pa. (D. Goulian, Jr., Executive Secretary, The Society, 116 E. 68 St., New York 10021)

5-9. American Soc. of **Brewing Chemists**, annual mtg., St. Paul, Minn. (B. A. Burkhart, Executive Secretary, The Society, 501 N. Walnut St., Madison, Wis. 53705)

5-9. American Soc. for **Microbiology**, 68th annual, Detroit, Mich. (Executive Secretary, The Society, 115 Huron View Blvd., Ann Arbor, Mich.)

5-9. **Electrochemical Soc.**, Inc., 133rd natl., Boston, Mass. (The Society, 30 E. 42 St., New York 10017)

5-10. American **Pharmaceutical Assoc.**, Miami Beach, Fla. (G. B. Griffenhagen, Director, Division of Communications, The Association, 2215 Constitution Ave., NW, Washington, D.C. 20037)

5-10. Society of **Plastics Engineers**, 26th annual technical conf., New York, N.Y. (R. D. Forger, Director of Memorial Activities, 65 Prospect St., Stamford, Conn. 06902)

6. **Clinical Investigation**, annual mtg., Atlantic City, N.J. (D. S. Fredrickson, National Heart Inst., Bethesda, Md. 20014)

6-7. **Human Factors in Electronics**, symp., Washington, D.C. (R. M. Emberson, Inst. of Electrical and Electronics Engineers, 345 E. 47 St., New York 10017)

6-7. Institute on **Lake Superior Geology**,

14th annual, Superior, Wis. (A. B. Dickas, Dept. of Geology, Wisconsin State Univ., Superior)

6-8. American **Public Power Assoc.**, annual conf., Seattle, Wash. (The Association, Suite 830, 919 18th St., NW, Washington, D.C. 20006)

6-8. American Soc. for **Quality Control** 22nd annual technical conf. and exhibit, Philadelphia, Pa. (R. W. Shearman, The Society, 161 W. Wisconsin Ave., Milwaukee, Wis.)

6-8. Cine Angiographic Techniques in **Cardiovascular Pulmonary Diseases**, Cleveland, Ohio. (H. L. Kruse, Executive Assistant, American College of Chest Physicians, 112 E. Chestnut St., Chicago, Ill.)

6-8. **Coding Theory**, symp., Madison, Wis. (H. B. Mann, Mathematics Research Center, Univ. of Wisconsin, Madison 53706)

6-9. **Aerospace Medical Assoc.**, 39th annual science mtg., Miami Beach, Fla. (W. J. Kennard, Washington National Airport, Washington, D.C. 20001)

6-9. **Aerospace Meteorology**, 3rd conf., New Orleans, La. (K. C. Spengler, American Meteorological Soc., 45 Beacon St., Boston, Mass. 02108)

6-9. American College of **Obstetricians and Gynecologists**, Chicago, Ill. (M. Newton, 79 W. Monroe St., Chicago 60603)

6-9. **Civil Aviation Medical Assoc.**, annual mtg., Miami Beach, Fla. (W. Gillespie, The Association, 3720 Washington St., St. Louis, Mo. 63108)

6-9. American Soc. of **Mechanical Engineers**, Fluids Engineering Div., Philadel-

phia, Pa. (Meetings Manager, The Society, 345 E. 47 St., New York 10017)

6-9. Soc. of **Aeronautical Weight Engineers**, natl. conf., New Orleans, La. (N. J. Carraway, Box 60024, Terminal Annex, Los Angeles, Calif. 90054)

7-8. Association of **American Physicians**, annual mtg., Atlantic City, N.J. (E. Stead, Jr., Executive Secretary, The Association, Duke Hospital, Durham, N.C.)

7-9. **Industrial and Commercial Power Systems**, technical conf., St. Louis, Mo. (Inst. of Electrical and Electronics Engineers, Office of the Technical Activities Board, 345 E. 47 St., New York 10017)

7-9. **Purdue Industrial Waste Conf.**, Lafayette, Ind. (D. E. Bloodgood, Civil Engineering Bldg., Purdue Univ., Lafayette 47907)

7-9. Soc. of **Aerospace Material and Process Engineers**, 13th natl. symp., Chicago, Ill. (P. Fina, 222 Scottswood Drive, Riverside, Ill.)

7-10. Society of **Experimental Stress Analysis**, spring mtg., Albany, N.Y. (B. E. Rossi, Executive Secretary, 21 Bridge Sq., Westport, Conn. 06880)

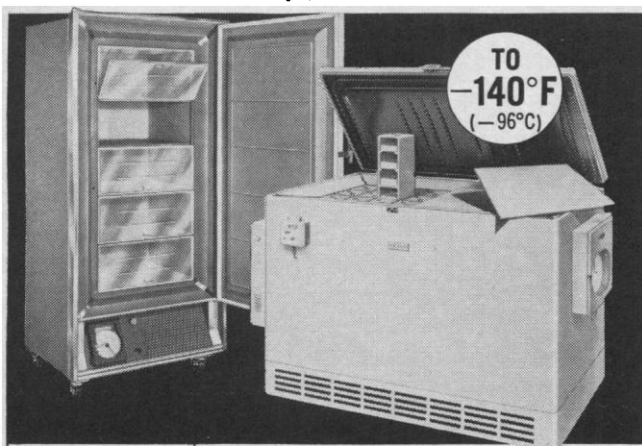
8-10. American Assoc. of **Genitourinary Surgeons**, annual mtg., Ponte Vedra, Fla. (H. M. Spence, Executive Secretary, The Association, 4105 Live Oak St., Dallas, Tex. 75221)

8-10. American **Helicopter Soc.**, 24th annual natl. forum, Washington, D.C. (H. M. Lounsbury, Executive Secretary, 141 E. 44 St., New York 10017)

8-10. **Electronic Components**, technical conf., Washington, D.C. (W. Hepner, Elec-

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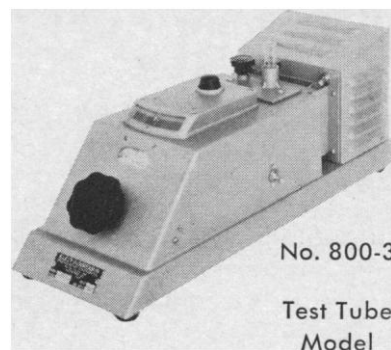
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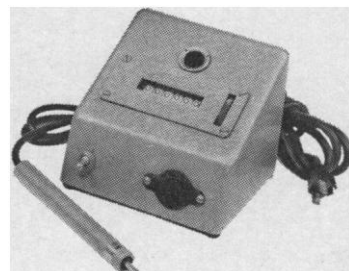
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9. Recent Significant Developments in
Medicine and Surgery, John F. Kennedy
symp., Boston, Mass. (E. G. Toomey,
Concord Medical Center, Concord, Mass.)

9-10. American Chemical Soc., central
regional, Akron, Ohio. (G. Brown, Dept.
of Chemistry, Kent State Univ., Kent,
Ohio)

9-10. The Child with Heart Disease,
Richmond, Va. (W. D. Nelligan, Executive
Director, American College of Cardiology,
9650 Rockville Pike, Washington, D.C.
20014)

9-11. Anesthesiology, midwest conf.,
Chicago, Ill. (A. P. Winnie, Illinois Soc.
of Anesthesiologists, 1825 W. Harrison
St., Chicago 60612)

9-11. Society of American Archeology,
33rd annual, Sante Fe, N.M. (Museum of
New Mexico, P.O. Box 2087, Sante Fe
87501)

9-11. American Inst. of Industrial En-
gineers, Tampa, Fla. (R. C. Hutchinson,
IMC, Box 867, Bartow, Fla.)

10-11. Arizona Acad. of Science, Flag-
staff. (K. E. Bean, Faculty Box 4058,
Northern Arizona Univ., Flagstaff 86001)

10-11. Association of University Radiol-
ogists, Columbus, Ohio. (S. Rogoff, Dept.
of Radiology, Univ. of Rochester Medical
School, Rochester, N.Y. 14620)

10-13. American Psychoanalytic Assoc.,
Boston, Mass. (H. Fischer, The Associa-
tion, 1 E. 57 St., New York 10022)

11. Kroeber Anthropological Soc., 12th
annual, Berkeley, Calif. (A. J. Almquist,
Dept. of Anthropology, Univ. of Cali-
fornia, Berkeley 94720)

12-16. American Assoc. of Orthodon-
tists, San Francisco, Calif. (J. E. Brophy,
Executive Secretary, 7477 Delmar Blvd.,
St. Louis, Mo. 63130)

12-16. Technical Assoc. of the Pulp and
Paper Industry, 19th coating conf., Miami
Beach, Fla. (D. Most, Box 542, Marble-
head, Mass.)

12-17. Mass Spectrometry, 16th annual
conf., Pittsburgh, Pa. (J. L. Franklin,
Dept. of Chemistry, Rice Univ., Houston,
Tex. 77001)

13-15. Aerospace Electronics, natl.
conf., Dayton, Ohio. (Inst. of Electrical
and Electronics Engineers, Dayton Office,
1220 E. Third St., Dayton 45402)

13-15. American Astronomical Soc.,
14th annual, Dedham, Mass. (J. Crone,
Northrop-Nortronics, 100 Morse St., Nor-
wood, Mass.)

13-15. Power Instrumentation Symp.,
11th natl., Chicago, Ill. (R. K. LaCrosse,
Sargent and Lundy, 140 S. Dearborn St.,
Chicago 60603)

13-16. Corporate Aircraft Safety Semi-
nar, Chicago, Ill. (C. Etnyre, Director of
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468 Park Ave., S., New York 10016)

13-17. American College of Psychia-
trists, Boston, Mass. (J. M. Myers, Ameri-
can College of Psychiatrists, 111 N. 49 St.,
Philadelphia, Pa. 10139)

13-17. American Industrial Hygiene,
conf., St. Louis, Mo. (G. D. Clayton, Ex-
ecutive Secretary, The Association, 14125
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13-17. **Environmental Engineering Conf.**, Chattanooga, Tenn. (W. H. Wisely, American Soc. of Civil Engineers, 345 E. 47 St., New York 10017)

13-17. **Soc. for Applied Spectroscopy**, 7th natl., Chicago, Ill. (J. W. Burroughs, % Borg-Warner Corp., R. C. Ingersoll Research Center, Wolf and Algonquin Rds., Des Plaines, Ill. 60018)

14. **Heart Sounds and Murmurs**, Loma Linda, Calif. (W. D. Nelligan, American College of Cardiology, 9650 Rockville Pike, Washington, D.C. 20014)

14-16. **Power Sources Conf.**, 22nd annual, Atlantic City, N.J. (H. W. Schwartz, Power Sources Div., AMSEL-KL-PT, Fort Monmouth, N.J. 07703)

14-18. **American Assoc. for Contamination Control**, 7th annual technical mtg. and exhibit, Chicago, Ill. (W. T. Maloney, Executive Secretary, Suite 620, 6 Beacon St., Boston, Mass. 48201)

14-18. **Armed Forces Communications and Electronics Assoc.**, 22nd annual conv., Washington, D.C. (W. J. Baird and J. H. Shreve, The Association, 1725 Eye St., NW, Washington, D.C. 20006)

15. **American Soc. for Gastrointestinal Endoscopy**, annual mtg., Philadelphia, Pa. (B. H. Sullivan, Jr., The Society, 2020 E. 93 Street, Cleveland, Ohio 44106)

15-16. **American Urological Assoc.**, Miami Beach, Fla. (W. P. Didusch, Executive Secretary, The Association, 1120 N. Charles St., Baltimore, Md.)

15-17. **American Petroleum Inst.**, Div. of Refining, 33rd midyear mtg., Philadelphia, Pa. (R. R. Wright, The Institute, 1271 Ave. of the Americas, New York 10020)

15-17. **Pulp and Paper**, 14th conf., Milwaukee, Wis. (Inst. of Electrical and Electronics Engineers, Office of the Technical Activities Board, 345 E. 47 St., New York 10017)

15-17. **Treatment of Myocardial Infarction**, Atlanta, Ga. (W. D. Nelligan, American College of Cardiology, 9650 Rockville Pike, Washington, D.C. 20014)

15-18. **American Gastroenterological Assoc.**, annual mtg., Philadelphia, Pa. (H. D. Janowitz, % Mt. Sinai Hospital, 11 E. 100 St., New York 10029)

15-18. **Neurosurgical Soc. of America**, annual mtg., San Francisco, Calif. (C. H. Davis, Jr., Bowman Gray School of Medicine, Winston-Salem, N.C. 27103)

16-17. **Metallurgical Soc.**, 22nd New England regional conf., Hartford, Conn. (J. V. Richard, The Society, 345 E. 47 St., New York 10017)

16-17. **Southern Textile Research Conf.**, Hilton Head Island, S.C. (E. E. St. Louis, % Astro Chemical Corp., 1613 E. North St., Greenville, S.C. 29607)

16-19. **Association of Clinical Scientists**, spring mtg., Little Rock, Ark. (R. P. MacFate, The Association, 300 N. State St., Chicago, Ill. 60610)

17-19. **American Osteopathic Acad. of Orthopedics**, instructional courses, Detroit, Mich. (J. P. Leonard, Secretary, The Academy, 2673 W. Grand Blvd., Detroit 48208)

19-22. **American Thoracic Soc./National Tuberculosis Assoc.**, joint mtg., Houston, Tex. (S. Wicker, National Tuberculosis Assoc., 1740 Broadway, New York 10019)

19-22. **Analysis Instrumentation Symp.**, 14th natl., Philadelphia, Pa. (R. G. Krueger, Leeds and Northrup Co., 4901 Stenton Ave., Philadelphia 19144)

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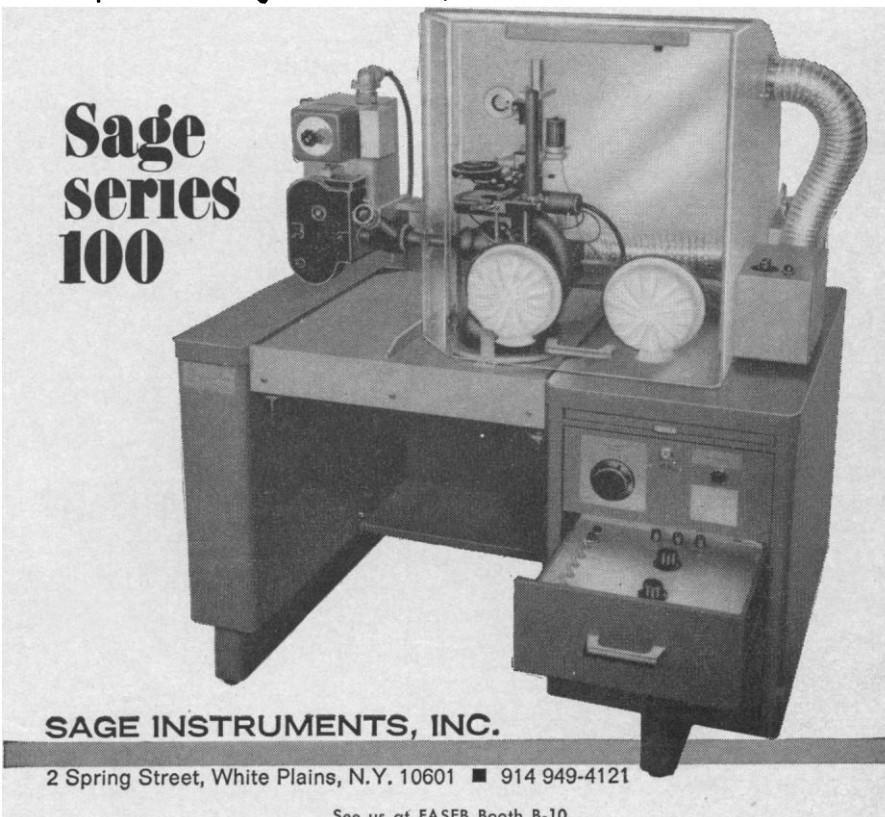
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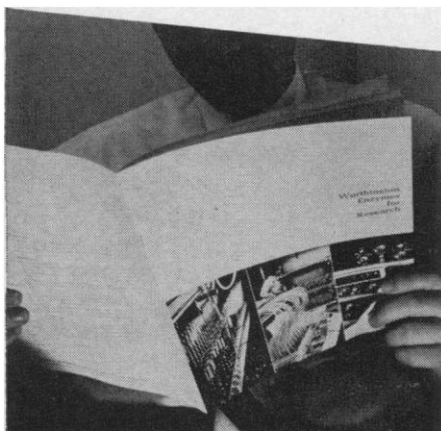


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20-22. Microwave Symp., Detroit, Mich. (M. C. Horton, Bendix Research Laboratories Div., Southfield, Mich. 48075)

20-23. Cement Industry, technology conf., St. Louis, Mo. (Inst. of Electrical and Electronics Engineers, R. M. Emberson, 345 E. 47 St., New York 10017)

20-24. Fire Protection Assoc., 72nd natl., Atlanta, Ga. (D. Richardson, Manager, PR Dept., National Fire Protection Assoc., 60 Batterymarch St., Boston, Mass.)

20-24. Inter-American Conf. on Materials Technology, San Antonio, Tex. (R. D. Wylie, Southwest Research Inst., 8500 Culebra Road, San Antonio)

20-24. Society of Automotive Engineers, midyear mtg., Detroit, Mich. (W. I. Marble, Meetings Div. Manager, The Society, 485 Lexington Ave., New York 10017)

21-23. Computer, joint spring conf., Atlantic City, N.J. (H. G. Asmus, American Federation of Information Processing Societies, 211 E. 43 Street, New York 10017)

21-23. National Microfilm Assoc., Chicago, Ill. (V. D. Tate, Executive Secretary, The Association, Box 386, Annapolis, Md.)

21-23. Telemetering, 18th natl. conf., Hollywood, Fla. (R. E. Blue, IBM Corp., 7900 N. Astronaut Bldg., Cape Kennedy, Fla. 32920)

21. Association for the Advancement of Psychoanalysis, New York, N.Y. (E. Schattner, Secretary, The Association, 147 E. 50 St., New York 10022)

22-23. American Iron and Steel Inst., general mtg., New York, N.Y. (The Institute, 150 E. 42 St., New York 10017)

22-25. Society of Technical Writers and Publishers, 15th annual, Los Angeles, Calif. (C. T. Youngblood, Suite 421, 1010 Vermont Ave., NW, Washington, D.C.)

23-24. Marine Aquiculture, conf., Newport, Ore. (W. J. McNeil, Oregon State Univ., Marine Science Center, Marine Science Drive, Newport 97365)

23-25. American Gynecological Soc., annual meeting, Hot Springs, Va. (G. W. Douglas, The Society, 550 First Ave., New York 10016)

23-25. Biomedical Sciences, instrumentation symp., Pittsburgh, Pa. (R. D. Allison, Scott and White Clinic, Temple, Tex. 76501)

24-25. American Podiatry Assoc., 6th regional mtg., Sioux Falls, S.D. (M. D. Scofield, Chairman, 120 W. 11 St., Sioux Falls 57102)

24-25. American Podiatry Assoc., 12th regional mtg., San Francisco, Calif. (A. G. Roos, Room 412, 209 Post St., San Francisco 94108)

27-29. American Ophthalmological Soc., Hot Springs, Va. (S. D. McPherson, Secretary-Treasurer, The Society, 1110 W. Main St., Durham, N.C. 27701)

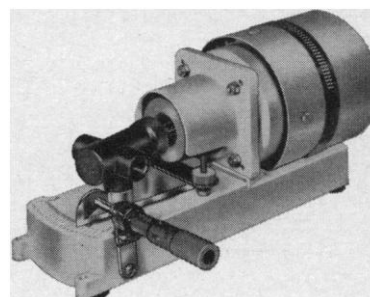
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22-26. World Meteorological Organization, Advisory Committee, 4th session, Geneva, Switzerland. (41, Ave. Guiseppe Motta, Geneva)

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22-11. **International Civil Aviation Organization**, Airworthiness Committee, 8th mtg., Amsterdam, Netherlands. (H. S. Marzusch, 3BIS, Villa Emile-Bergerat, Neuilly-sur-Seine, France)

23-24. **Physical-Chemical Methods of Corrosion Testing**, Frankfurt am Main, Germany. (Study Group on Corrosion, European Federation of Corrosion, Theodore-Huess-Allee 25, Frankfurt am Main, Germany)

23-25. **Stereochemical Nomenclature**, symp., London, England. (Ciba Foundation, 41 Portland Pl., London, W.1)

24-28. **Biochemical Mtg.**, 9th Latin, Monte Carlo, Monaco. (J. E. Curtois, 4 avenue de l'Observatoire, Paris 6, France)

28-4. **Inter-American Congr. of Atherosclerosis**, 3rd, Buenos Aires, Argentina. (J. J. Lijo Pavia, Avda. Quintana 104, Buenos Aires)

29-2. **Biochemical Analysis Conf.**, Munich, Germany. (H. Schievelbein, Secretary, Nussbaumstr. 20, 8 Munich 15)

May

1-3. **Vacuum Ultraviolet Physics, and Interactions with Solids**, 2nd intern. conf., Gatlinburg, Tenn. (L. C. Emerson, % Health Physics Div., Oak Ridge Natl. Lab., Oak Ridge, Tenn. 37820)

1-5. **Protides of Biological Fluids**, 16th annual colloquium, Brugge, Belgium. (Dr. Peeters, Jeruzalemstraat, 34, Brugge)

2-4. **Future of the Brain Sciences**, intern. conf., New York, N.Y. (S. Bogoch, 36 The Fenway, Boston, Mass. 02215)

4-9. **International Acad. of Proctology**, annual mtg., Montreux, Switzerland. (A. J. Canto, Secretary, The Academy, 147-41 Sanford Ave., Flushing, N.Y. 11355)

5-9. **Electron and Ion Beams in Science and Technology**, 3rd intern. conf., Boston, Mass. (C. Moore, Electrochemical Soc., Inc., 30 E. 42 St., New York 10017)

5-11. **Combustion Engines**, 8th intern. congr., Brussels, Belgium. (Federation des Entreprises de l'Industrie des Fabrications Metalliques, 21, rue des Drapiers, Brussels 5)

6-7. **Canadian Aeronautics and Space Inst.**, annual general meeting, Toronto, Ont., Canada. (Secretary, The Institute, Room 704, 77 Metcalfe St., Ottawa 4, Ont.)

6-10. **Electro-Deposition and Metal Finishing**, 7th intern. conf., Berlin, Germany. (Deutsche Gesellschaft für Galvanotechnik, Postfach 10026, 4000 Dusseldorf 10, Germany)

6-20. **Biological Organization on a Molecular Level**, Rehovoth, Israel. (M. Sela, Office of the President, Weizmann Inst. of Science, Rehovoth)

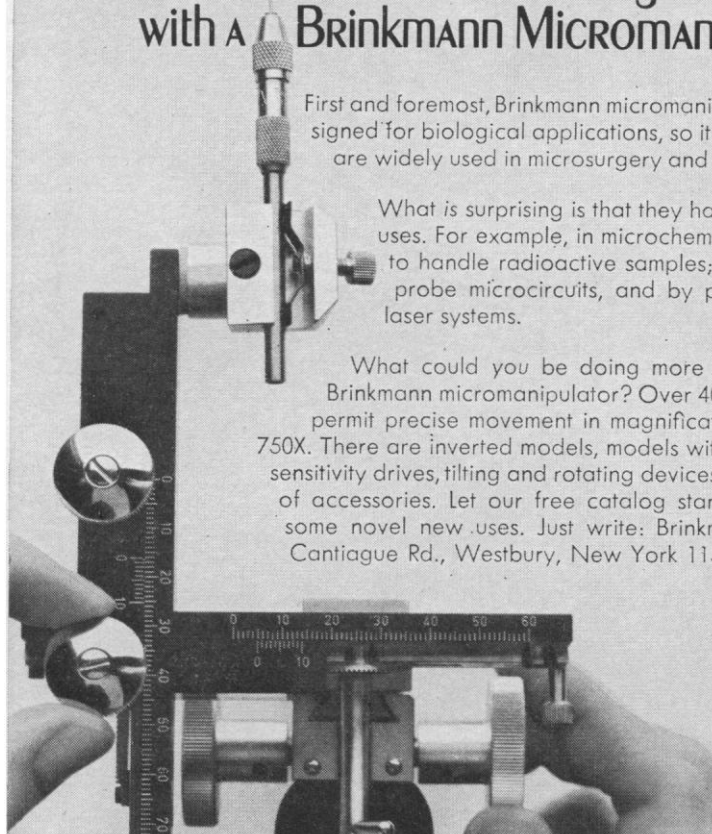
7-10. **Cryogenic Engineering**, 2nd intern. conf., Brighton, England. (Conference Secretary, ICEC2, 32 High St., Guilford, Surrey, England)

7-10. **Powder Metallurgy**, 2nd European symp., Stuttgart, Germany. (Ausschuss für Pulvermetallurgie, Breite Str. 27, Dusseldorf, Germany)

8-10. **Genetics Soc. of Canada**, annual mtg., Winnipeg, Manitoba, Canada. (K. W. Buchannon, Research Station, CDA 25 Daffoe Road, Winnipeg 19)

8-10. **Thyroid Cancers**, intern. conf., Lausanne, Switzerland. (G. Candardjis,

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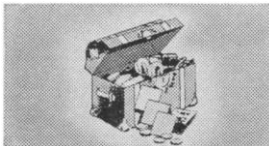
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9-10. Canadian Operational Research Soc., 10th technical mtg., Toronto, Ont. (J. A. Sarjeant, School of Business, Univ. of Toronto, Toronto 5, Ont.)

9-10. Oil and Colour Chemists' Assoc., conf., 50th anniversary jubilee, London, England. (R. H. Hamblin, Secretary General, Wax Chandlers' Hall, Gresham St., London, E.C.2, England)

12-14. Sugar Industry Technologists, 27th annual, Montreal, P.Q., Canada. (P.O. Box 47, Medford, Mass. 02155)

12-16. Automobile Technical Congr., 12th intern., Barcelona, Spain. (Sociedad de Technicos de Automacion, Av. Generalísimo 999, Barcelona 14)

12-16. Canadian Anaesthetists Soc., 19th annual, Montebello. (S. M. Campbell, Executive Director, The Society, 178 St. George St., Toronto 5, Ont., Canada)

12-16. Pacific Coast Oto-Ophthalmological Soc., Vancouver, B.C., Canada. (G. E. Morgan, The Society, 960 E. Green St., Pasadena, Calif. 91101)

12-17. Federation of Societies of Cosmetic Chemists, 5th intern. congr., Tokyo, Japan. (T. Koyama, Shiseido Co., Ltd., 3, Ginza Hishi, 7-Chome, Chuo-Ku, Tokyo)

12-18. Universal Aspects of Atmospheric Electricity, 4th intern. conf., Tokyo, Japan. (S. C. Coroniti, % Space Systems Div., Avco Corp., 201 Lowell St., Wilmington, Mass. 01887)

12-19. Data Processing for Climatological Purposes, Asheville, N.C. (World Meteorological Organization, 41, Avenue Guiseppe Motta, Geneva, Switzerland)

13-16. Canadian Public Health Assoc., 56th annual, Vancouver, B.C., Canada. (Executive Director, The Association, 1255 Yonge St., Toronto 7, Ont., Canada)

13-16. Circumventricular Organs and Cerebrospinal Fluid, symp., Reinhardsbrenn, Germany. (G. Sterba, Zoologisches Institut, Karl-Marx-Universität, Talstr. 33, Leipzig, Germany)

13-17. International Congr. Against Noise, 5th, London, England. (Mr. Connel, % Noise Abatement Soc., 6 Old Bond St., London, W.1.)

13-17. Mechanical Pulping, 6th intern. congr., Atlanta, Ga. (K. G. Chesley, Technical Secretary, Technical Assoc. of the Pulp and Paper Industry, 360 Lexington Ave., New York 10017)

13-18. Instruments, Electronics, and Automation, intern. exhibition, London, England. (Industrial Exhibitions Ltd., 9 Argyll St., London, W.1)

13-18. International Union for Electroheat, 6th intern. congr., Brighton, England. (British Natl. Committee on Electroheat, 2 Savoy Hill, London W.C.2, England)

13-18. Water Studies, 21st intern. conf., Liege, Belgium. (Ceredeau, 2, rue A. Stevart, Liege)

14-16. Steam Generating and Other Heavy Water Reactors, conf., London, England. (A. McDonald, Secretary, British Nuclear Soc., 1-7 Great George St., Westminster, London, S.W.1)

14-17. Quantum Electronics, intern. conf., Miami Beach, Fla. (L. Winner, 152 W. 42 St., New York, 10036)

14-19. European Federation of Chemical Engineering, 4th symp., Brussels, Belgium. (J. G. Van De Vusse, Koninklij-

ke/Shell Laboratorium Badhuisweg 3, Amsterdam, Netherlands)

15-17. Canadian **Phytopathological Soc.**, annual mtg., Winnipeg, Manitoba, Canada. (W. C. McDonald, Canada Dept. of Agriculture, Research Station, 25 Dafoe Rd., Winnipeg 19)

16-18. **Experimental Zoology**, intern. congr., Vienna, Austria. (Wiener Medizinische Akademie, Reisedienst Stadiongasse 6-8, A-1010 Vienna)

17-19. Royal **Astronomical Soc.** of Canada, general assembly, Calgary, Alta. (The Society, 252 College St., Toronto 2B, Ont., Canada)

18-22. **Cytology**, 3rd intern. congr., Rio de Janeiro, Brazil. (C. Ferreira, Emilio Berla 46-3 Copacabana, Rio de Janeiro)

18-28. **Eocene Stratigraphy**, symp., Paris, France. (Ch. Pomerol, Laboratoire de Geologie, 1, rue de la Brosse, Paris 5)

19-22. Canadian **Urological Assoc.**, annual mtg., Houston, Tex. (A. H. Irvine, 1105 Carling Ave., Suite 207, Ottawa 3, Ontario, Canada)

19-26. **Elementary Particle Theory**, Nobel symp., Goteborg, Sweden. (Nobel Foundation, Sturegatan 14, Stockholm 5, Sweden)

20-23. **Powder Technology**, intern. conf., Chicago, Ill. (M. Jackson, Research Inst., Illinois Inst. of Technology, 10 W. 35 St., Chicago 60616)

20-24. **Acoustical Soc. of America**, spring mtg., Ottawa, P.Q., Canada. (E. A. G. Shaw, Natl. Research Council, Sussex Drive, Ottawa)

20-24. **Inelastic Scattering of Neutrons**, symp., Copenhagen, Denmark. (Interna-

tional Atomic Energy Agency, Karntner Ring 11, Vienna 1, Austria)

20-25. **Polypeptide and Protein Hormones**, intern. symp., Liege, Belgium. (Margoulies, Institut de Medicine, Hôpital de Baviere, Liege)

20-27. International **Fertility Assoc.**, 6th world congr., Tel Aviv, Israel. (N. Soferman, P.O.B. 26102, Tel Aviv)

20-30. Control Mechanisms in **Molecular Biology**, Bergen, Norway. (Advanced Study Institute, Dept. of Biochemistry, Univ. of Bergen, Bergen)

21-23. **Agricultural Meteorology**, 8th conf., Ottawa, Ont., Canada. (K. C. Spengler, American Meteorological Soc., 45 Beacon St., Boston, Mass. 02108)

21-24. **Titanium**, intern. conf., London England. (Inst. of Metals, 17 Belgrave Sq., London, S.W.1)

22-25. Union of Societies of **Medical Sciences**, 12th natl. congr. of surgery, Bucharest, Rumania. (E. Papahagi, Str. Progresului No. 8-10, Bucharest 30)

22-29. **Recent Crustal Movements**, 3rd intern. symp., Leningrad, U.S.S.R. (Soviet Geophysical Committee, Molodezhnaya 3, Moscow B-296, U.S.S.R.)

23-25. **Ultrasonography in Ophthalmology**, 4th intern. congr., Philadelphia, Pa. (L. K. Sarin, 1601 Spring Garden St., Philadelphia 19130)

24-26. **Powder Metallurgy**, Reutte, Austria. (Metallwerk Plansee A.G., Postfach 74, A6600 Reutte)

24-31. **Chemical Arts**, intern. conf., Paris, France. (Societe de Chimie Industrielle, 80, rue de Sainte Cloud, 92 Rueil-Malmaison, France)

25-29. Canadian **Ophthalmological Soc.**, 31st annual mtg., Ottawa, Ont. (R. G. C. Kelly, The Society, 1849 Yonge St., Toronto, Ont., Canada)

25-31. **Economics of Nuclear Fuels**, symp., Gottwaldov, Czechoslovakia. (J. H. Kane, Conference Branch, Div. of Technical Information, U.S. Atomic Energy Commission, Washington, D.C. 20545)

27-29. International Days of **Chemical Engineering**, Paris, France. (Secretariat, Societe de Chimie Industrielle, 80, rue de Sainte Cloud, 92 Rueil-Malmaison, France)

27-31. Canadian Assoc. of **Geographers**, annual mtg., Calgary, Alberta. (M. R. C. Coulson, Chairman of Local Arrangements Committee, Dept. of Geography, Univ. of Calgary, Calgary)

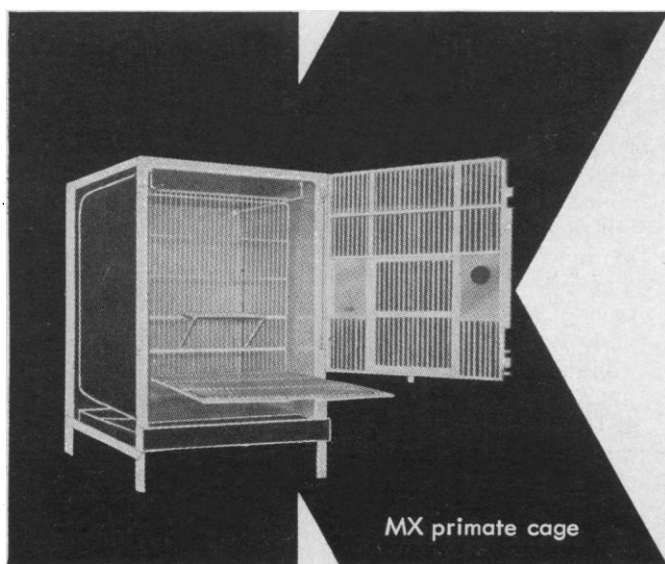
27-31. **Medical Records**, 5th intern. congr., Stockholm, Sweden. (E. Forssner, P.O. Box 5101, Stockholm 5)

27-31. **Thermionic Electrical Power Generation**, 2nd intern. conf., Stresa, Italy. (European Nuclear Energy Agency, 38, Boulevard Suchet, Paris 16, France)

27-1. **Biological Synthesis of Proteins**, 7th intern. agriculture and chemistry symp., Salamanca, Spain. (Inst. of Agricultural Chemistry, Univ. of Pisa, Via S. Michele Degli Scalzi 2, Pisa, Italy)

29-31. **Engineering Inst. of Canada**, 82nd annual general mtg., Halifax, N.S., Canada. (The Institute, General Secretary, 2050 Mansfield St., Montreal 2, P.Q., Canada)

31-1. Canadian Soc. of **Zoologists**, annual mtg., Calgary, Alberta. (J. M. Anderson, Secretary-Treasurer, FRB Biological Station, St. Andrews, New Brunswick)



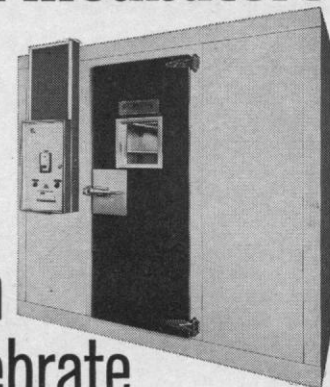
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