

from sphericity. In another paper A. F. Kip (University of California) discussed a new phenomenon observed in experiments on the Azbel-Kaner cyclotron resonance in aluminum. Qualitative changes in the resonance were observed when the applied magnetic field was inclined with respect to the sample surface at angles as small as a few minutes. Kip explained how such changes might be caused by the existence of current sheets in the interior of the sample. Although the argument in this case depended on a special feature of the Fermi surface geometry of aluminum, it appears that similar effects observed in other metals may have similar origins and that these effects, once understood, may increase the utility of these experiments as sources of information on the Fermi surfaces of metals.

M. H. Cohen (University of Chicago) reviewed recent progress in the theoretical understanding of metals, and briefly discussed the use of pseudopotentials in the calculation of metallic parameters and the attempts to study many body effects in real metals by interpolating into the existing theory the Landau theory of Fermi liquids. He also discussed a general framework for theoretical calculations in metals. This framework is based on a decomposition of the desired property into parts of decreasing magnitude. The first depends only on electron density, the second on electron density and composition, and the third on electron density, composition, and structure. It can be shown that such decomposition is possible and is in accord with such simple general features of metals as the similarity of properties of different alloys that have similar average compositions and the insensitivity of properties, such as electrical resistivity, to changes in structure that occur in melting.

Experimental and theoretical aspects of transition metals were discussed in several very interesting papers on chromium. J. A. Marcus (Northwestern University) described measurements of the anisotropy of the magnetic susceptibility. His results indicate that chromium is not magnetically cubic if cooled through the antiferromagnetic Néel temperature (312°K) in a magnetic field. Striking changes in the anisotropy also occurred at a spin flip temperature of 120°K, a transition temperature that had previously been detected only by neutron diffraction and in measurements of elastic constants. Further indications that chromium is

not magnetically cubic in the ordered state were among the results of experiments on critical scattering of neutrons near the Néel temperature (A. R. Mackintosh, A.E.K. Research Establishment, Denmark). B. R. Watts (Cambridge University) described measurements of the de Haas-van Alphen effect in chromium in pulsed magnetic fields above 100 kilooersteds on samples which had been cooled through the Néel temperature in fields of about 80 kilooersteds. The pulsed measuring field did not eliminate the effects of the cooling field and the de Haas-van Alphen periods showed tetragonal rather than cubic symmetry, indicating significant changes in the Fermi surface geometry due to the magnetic ordering.

W. Marshall (United Kingdom Atomic Energy Research Establishment, Harwell) suggested that the Mössbauer effect has reached the end of its "gee-whiz" phase and is now taking a place as a routine tool of the solid-state physicist. After reviewing some past successful applications, he discussed some current and future applications which included the measurement of the temperature dependence of the magnetization in ferromagnets near the Curie temperature and the study of localized magnetic moments in alloys.

Dealing with some current problems with defects in solids, E. W. J. Mitchell (University of Reading) quickly reviewed the historical background of intrinsic defects in the alkali halides and then elaborated on the problem of the mechanism of the production of such defects by electron irradiation and the use of this means to produce them in controlled numbers. The structure of optical absorption spectra in zinc sulfide, cadmium sulfide, and diamond was also covered. C. D. Clark (University of Reading) effectively supplemented this discussion in his paper on the absorption bands of color centers in natural diamonds after electron irradiation and heating. It was shown that these bands, which are analogous to those of Mössbauer γ -ray spectra in solids, are closely associated with the four phonon frequencies that correspond to the maximum density of lattice modes for the various vibrational branches.

Interest was focused on another current problem of defect physics—the mechanism of self diffusion in body-centered cubic metals. J. N. Mundy (United Kingdom Atomic Energy Research Establishment, Harwell) pre-

sented data on the relative diffusion rates of the radioisotopes Na^{22} and Na^{24} in sodium. In principle the mechanism of diffusion could be determined by such measurements, but unfortunately the nature of the results makes it impossible to distinguish between a relaxed vacancy and a two-atom interstitial as the dominant mechanism of diffusion in sodium.

One of the most interesting papers on research in semiconductors was presented by K. F. Hulme (Royal Aircraft Establishment, Malvern) who discussed the changes in tunnel current in germanium tunnel diodes at 300°C. From observations of changes in current due to arsenic impurities that move a few angstroms by diffusion and drift at the p - n junction, the diffusion characteristics of arsenic in germanium were calculated. The results were consistent with data obtained by other techniques and extrapolated for high temperatures.

In another area of semiconductor study, D. L. Greenaway (R.C.A., Zurich) showed the effectiveness of optical reflectivity studies in the evaluation of the band structure of semiconductors and semimetals. Measurements on materials with rocksalt structure (PbS, PbSe, and PbTe) and the semimetals (As, Sb, and Bi) reveal a consistent picture of deep-lying band structure when they are correlated with other experimental and theoretical results.

One of the few papers with an immediate practical application was given by M. J. Aitkin (Oxford University) who described the usefulness of thermoluminescent studies for dating ancient ceramics. Measurements on many pottery fragments, varying in date from 5500 B.C. to A.D. 1500, show that the glow emitted when a pulverized sample is heated in the temperature range of 350° to 500°C is proportional to the age of the sample if the glow curve is taken in an atmosphere of nitrogen and the sample is not exposed to light after grinding.

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Philadelphia*

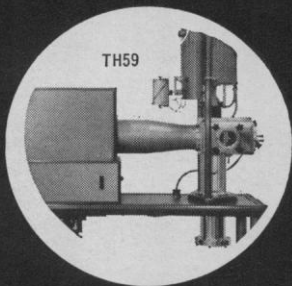
R. F. PEART

University of Illinois, Urbana

Forthcoming Events

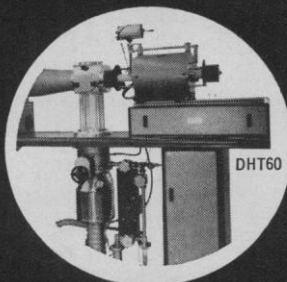
June

15–19. **Molecular Spectroscopy**, symp., Columbus, Ohio. (H. H. Nielsen, Dept. of Physics, Ohio State Univ., 174 W. 18 Ave., Columbus 43210)



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15-19. **Technical Writers**, 12th annual inst., Troy, N.Y. (J. R. Gould, Rensselaer Polytechnic Inst., Troy)

15-21. **Women Engineers and Scientists**, 1st intern. conf., New York, N.Y. (E. Eaves, 18 Third Ave., Port Washington, N.Y. 11050)

15-3. **Relativity**, teaching at undergraduate level, Arlington, Tex. (J. Ellis, Dept. of Physics, Arlington State College, Arlington)

15-4 Sept. **Gordon Research Conf.**, New Hampshire. (W. G. Parks, Dept. of Chemistry, Univ. of Rhode Island, Kingston)

16-17. **Computer Augmentation of Human Reasoning**, symp., Washington, D.C. (W. D. Orr, TRW Computer Div., 8433 Fallbrook Ave., Canoga Park, Calif.)

16-18. **Entomological Soc. of America**, Pacific Branch, annual, Long Beach, Calif. (W. W. Allen, 112 Agric. Hall, Dept. of Entomology, Univ. of California, Berkeley)

17-19. **Microscopy**, 11th intern. symp., Chicago, Ill. (MICRO-64, McCrone Research Inst., 451 E. 31 St., Chicago 60616)

17-20. **American College of Angiology**, Las Vegas, Nev. (A. Halpern, 11 Hampton Court, Great Neck, N.Y.)

17-20. **International Assoc. for the Study of the Bronchi**, 14th congr., Vienna, Austria. (Secretariat, The Congress, c/o Wiener Medizinische Akademie für Ärztliche Fortbildung, Aslerstr. 4, Vienna 9)

18-19. **Patent, Trademark, and Copyright Research Inst.**, 8th annual conf., George Washington Univ., Washington, D.C. (PTCR Inst., George Washington Univ., Washington, D.C. 20006)

18-19. **American Rheumatism Assoc.**, San Francisco, Calif. (J. A. Coss, Jr., 20 E. 76 St., New York, N.Y. 10021)

18-20. **Community Psychiatry**, conf., Univ. of Wisconsin, Madison. (L. M. Roberts, 1300 University Ave., Madison)

18-20. **Endocrine Soc.**, San Francisco, Calif. (H. H. Turner, 200 N. Walker, Oklahoma City, Okla.)

18-20. **American Assoc. of Physics Teachers**, summer meeting, Madison, Wis. (H. R. Crane, Dept. of Physics, Univ. of Michigan, Ann Arbor)

18-20. **Space Technology**, 4th European symp., Rome, Italy. (A. Eula, Associazione Italiana Razzi, Piazza Santo Bernardo 101, Rome)

18-20. **Sulfite Pulping**, conf., Chicago, Ill. (Technical Assoc. of the Pulp and Paper Industry, 360 Lexington Ave., New York, N.Y. 10017)

18-22. **American College of Chest Physicians**, San Francisco, Calif. (M. Kornfeld, 112 E. Chestnut, Chicago, Ill.)

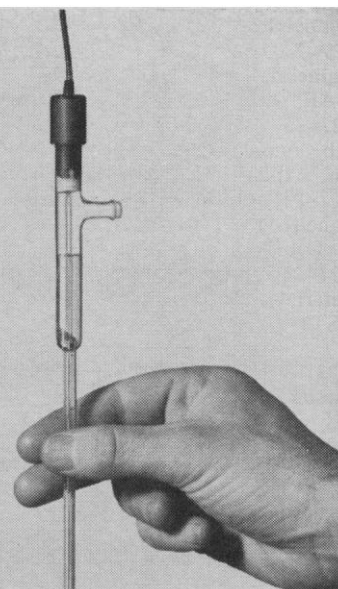
19. **Parenteral Drug Assoc.**, Philadelphia, Pa. (The Association, Broad and Chestnut Sts., Philadelphia 7)

19-20. **American Geriatrics Soc.**, 21st annual, San Francisco, Calif. (AGS, 10 Columbus Circle, New York, N.Y. 10019)

19-27. **Chemical Engineering**, European conv., Frankfurt am Main, Germany (Chicago Section, American Chemical Soc., 86 E. Randolph St., Chicago 1, Ill.)

21. **Surface Physics**, Providence, R.I. (W. H. Brattain, Bell Telephone Laboratories, Murray Hill, N.J. 17971)

21-23. **Society for Investigative Dermatology**, 25th annual, San Francisco,



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Calif. (H. Beerman, SID, 255 S. 17 St., Philadelphia, Pa. 19103)

21-24. American Soc. of **Agricultural Engineers**, Fort Collins, Colo. (J. L. Butt, ASAE, 420 Main St., St. Joseph, Mich.)

21-25. **Air Pollution Control Assoc.**, 57th annual, Houston, Tex. (The Association, 4400 Fifth Ave., Pittsburgh, Pa.)

21-25. **American Medical Assoc.**, San Francisco, Calif. (F. J. L. Blasingame, N. Dearborn, Chicago, Ill. 60610)

21-26. American Soc. for **Testing and Materials**, 67th annual, Chicago, Ill. (ASTM, 1916 Race St., Philadelphia 3, Pa.)

22-24. **American Dairy Science Assoc.**, Tucson, Ariz. (H. F. Judkins, 32 Ridgeway Circle, White Plains, N.Y.)

22-24. **Medicinal Chemistry**, 9th natl. symp., Minneapolis, Minn. (A. T. Winstead, American Chemical Soc., 1155 16th St., NW, Washington, D.C. 20006)

22-24. Association for Research in **Ophthalmology**, San Francisco, Calif. (H. Kaufman, c/o Hillis Miller Health Center, Gainesville, Fla.)

22-24. **Photosensitization in Solids**, intern. conf., Chicago, Ill. (L. Grossweiner, Dept. of Physics, Illinois Inst. of Technology, Chicago)

22-24. American Assoc. of **Physical Anthropologists**, 33rd annual, Mexico City, Mexico. (T. D. Stewart, The Association, U.S. Natl. Museum, Washington, D.C.)

22-24. **Polymers**, 2nd biennial symp., American Chemical Soc., Durham, N.C. (H. N. Friedlander, Chemstrand Research Center, Inc., Box 731, Durham)

22-25. **Agricultural Pesticides Technical Soc.**, Fredericton, N.B., Canada. (W. H. Minshall, University Substation P.O., London, Ont., Canada)

22-25. American Soc. of **Pharmacognosy**, annual, Pittsburgh, Pa. (R. Blomster, Univ. of Pittsburgh School of Pharmacy, Pittsburgh 15213)

22-26. American Soc. for **Engineering Education**, Orono, Maine. (W. L. Collins, Univ. of Illinois, Urbana)

22-26. **Nobel Prize Winners**, 14th meeting, Lindau im Bodensee, Germany. (H. F. Kinderlen, Standing Working Committee for the Nobel Prize Winners, Postfach 11, 899 Lindau im Bodensee)

22-26. Association of Official **Seed Analysts**, Rochester, N.Y. (E. W. Sundermeyer, 329 U.S. Court House, Kansas City 6, Mo.)

22-27. **AAAS Pacific Division**, 45th meeting, Vancouver, B.C., Canada. (R. C. Miller, California Acad. of Sciences, San Francisco)

22-27. International Organization for **Pure and Applied Physics**, 2nd general assembly, Paris, France. (J. Tonnelot, Laboratoire de Biologie Physico-Chimique, Orsay, Seine-et-Oise, France)

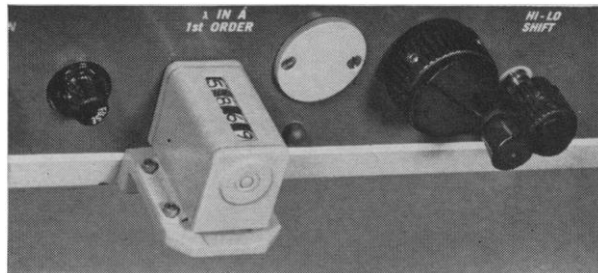
23. National Assoc. of **Science Writers**, San Francisco, Calif. (M. D. Spencer, Buffalo Evening News, Buffalo, N.Y.)

23-25. Precision **Electromagnetic Measurements**, conf., Boulder, Colo. (National Bureau of Standards, Boulder Labs., Boulder)

23-26. American **Home Economics Assoc.**, 55th annual, Detroit, Mich. (AHEA, 1600 20th St., NW, Washington, D.C.)

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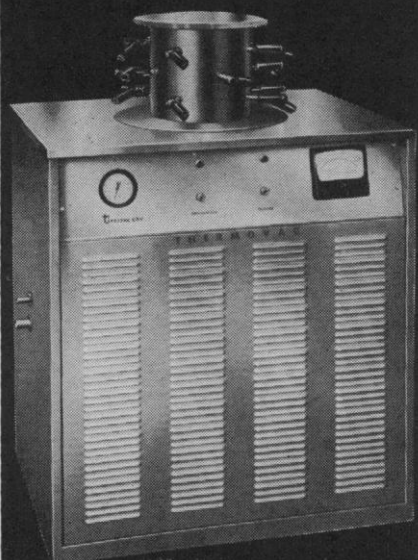
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24-25. **Computers and Data Processing**, 11th annual, symp., Estes Park, Colo. (W. H. Eichelberger, Denver Research Inst., Univ. of Denver, Denver, Colo. 80210)

24-26. **Joint Automatic Control Conf.**, Stanford, Calif. (L. Zadeh, Univ. of California, Berkeley)

24-28. **American Assoc. of Bioanalysts**, annual, Las Vegas, Nev. (W. N. Reich, AAB, P.O. Box 607, Walnut Creek, Calif.)

24-1. **Air Pollution**, European conf., Strassbourg, Austria. (A. Stern, Div. of Air Pollution, U.S. Public Health Service, Washington, D.C. 20201)

25-26. **Fundamental Phenomena in Hypersonic Flow**, intern. symp., Buffalo, N.Y. (H. S. Tolley, Cornell Aeronautical Laboratory, P.O. Box 235, Buffalo 14221)

25-27. **American Physical Soc.**, Denver, Colo. (R. G. Sachs, Sterling Hall, Univ. of Wisconsin, Madison 53706)

25-28. **Rockets and Space Flight**, 13th symp., Darmstadt, Germany. (A. F. Staats, Hermann-Oberth-Gesellschaft, Fritz-Beindorff-Allee 9, Hanover, Germany)

28-4. **American Library Assoc.**, St. Louis, Mo. (D. H. Clift, 50. E. Huron St., Chicago, Ill.)

29-30. **Vacuum Metallurgy**, conf., New York, N.Y. (M. A. Cocca, General Electric Laboratory, P.O. Box 1088, Schenectady, N.Y.)

29-1. **American Soc. of Heating, Refrigerating, and Air-Conditioning Engineers**, 71st annual, Cleveland, Ohio. (ASHRAE, 345 E. 47 St., New York, N.Y.)

29-1. **Effects of Radiation on the Hereditary Fitness of Mammalian Populations**, symp., Bar Harbor, Maine. (T. H. Roderick, Jackson Laboratory, Bar Harbor)

29-2. **American Inst. of Aeronautics and Astronautics**, 1st annual, Washington, D.C. (AIAA, 500 Fifth Ave., New York, N.Y. 10036)

29-2. **American Dermatological Assoc.**, Honolulu, Hawaii. (W. M. Sams, 303 Ingraham Bldg., Miami 32, Fla.)

30-5. **Society for Social Responsibility in Science**, Fellowship Farm, Pa. (W. C. Davidson, Dept. of Physics, Haverford College, Haverford, Pa.)

July

1-4. **National Soc. of Professional Engineers**, annual, Asheville, N.C. (K. E. Trombley, NSPE, 2029 K St., NW, Washington, D.C.)

1-4. **British Tuberculosis Assoc.**, St. Andrews, Scotland. (BTA, 59 Portland Place, London, W.1, England)

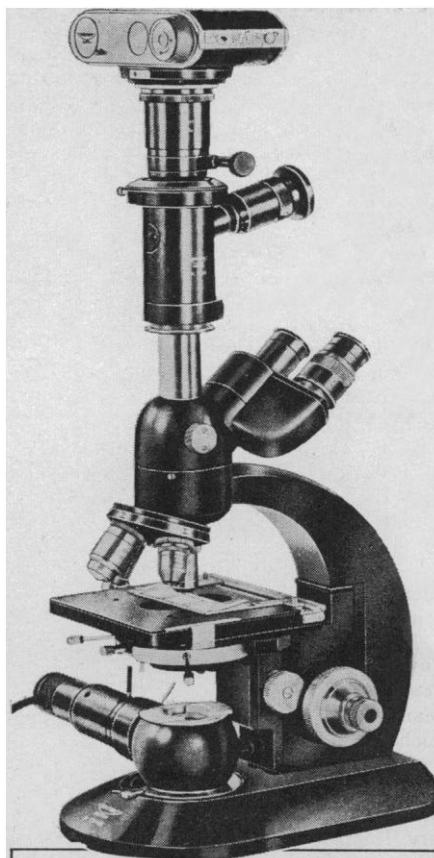
2-3. **Spectrochemical Analysis**, limits of detection, conf., Exeter, England, Institute of Physics and the Physical Society, 47 Belgrave Sq., London, S.W.1, England)

2-4. **Scandinavian, Dental Congr.**, Helsinki, Finland. (N. Anderson, Bergmansg. 11 D, Helsinki)

2-5. **Northwest Proctologic Soc.**, Banff, Canada. (F. C. Swartzlander, Greyhound Bldg., Calgary, Canada)

2-8. **Nuclear Physics**, intern. congr., Paris, France. (The Congress, B.P. No. 14, Orsay, Seine-et-Oise, France)

5-10. **American Physical Therapy Assoc.**, annual conf., Denver, Colo. (H. J. Hislop, 1790 Broadway, New York, N.Y.)



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6-8. **Electron-Beam Processes** for Microelectronics, symp., Malvern, Worcester, England. (Information Officer, Royal Radar Establishment, St. Andrews Rd., Malvern)

6-9. **Learning and Associated Phenomena in Invertebrates**, Cambridge, England. (D. Davenport, Dept. of Biological Sciences, Univ. of California, Santa Barbara)

6-9. **Signal Processing in Radar and Sonar Directional Systems**, Birmingham, England. (British Institution of Radio Engineers, 9 Bedford Sq., London, W.C.1)

6-10. **Magnetic Recording**, intern conf., London, England. (Secretariat, the Conference, c/o Inst. of Electrical Engineers, Savoy Pl., London, W.C.2)

6-10. **Theoretical and Applied Mathematical Programming**, intern. symp., London, England. (M. Kinnaird, Operational Research Soc., 64 Cannon St., London, E.C.4)

6-10. **Physics of Non-crystalline Solids**, intern congr. Delft, Netherlands, (J. A. Prins, Lab. Technische Natuurkunde T.H. Delft)

6-11. **Magnetohydrodynamic Electrical Power Production**, Paris France. (European Nuclear Energy Agency, 38 Blvd. Suchet, Paris 16^e)

6-12. **Sanitary Engineering**, 9th inter-American congr., Bogotá, Colombia. (J. A. Jove, Inter-American Assoc. of Sanitary Engineering, Centro Simón Bolívar, Edificio Sur, 6° piso, Caracas, Venezuela)

7-10. **American Dental Soc. of Europe**, annual, Brighton, England. (A. E. F. Sturridge, 35 Harley St., London, W.1, England)

7-11. **European Orthodontic Soc.**, 40th congr., Athens, Greece. (H. N. Haralakis, Akadimias St. 31, Athens 135)

8-10. **Sulfur Allotropes**, Univ. of California, Berkeley. (B. Meyer, Latimer Hall, Univ. of California, Berkeley)

8-11. **International Soc. of Gastroenterology**, 6th intern. congr., Medellín, Colombia. (J. L. A. Roth, 419 S. 19 St., Philadelphia, Pa.)

8-16. **Entomology**, 12th intern. congr., London, England. (P. Freeman, British Museum of Natural History, Cromwell Rd., London, S.W.7)

10-11. **Rocky Mountain Cancer Conf.**, Denver, Colo. (N. P. Isbell, 1809 E. 18 Ave., Denver 80218)

10-15. **Pleistocene Geomorphology**, symp., Exeter, England. (T. H. Elkins, Royal Geographical Soc., Kensington Gore, London, S.W.7)

12-15. **Solid Propulsion**, NASA meeting, Philadelphia, Pa. (W. H. Hunter, Office of Program Development, Washington, D.C. 10025)

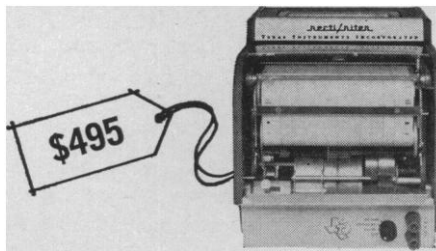
12-16. **Gastroenterology**, 9th Pan American congr., Bogotá, Colombia. (C. A. Estape, Soriano 877, Montevideo, Uruguay)

13-15. **Problems of Capillary Permeability in Health and Disease**, Univ. of Michigan 1964 summer symp., Ann Arbor, Mich. (M. M. Dewey, Dept. of Anatomy, Univ. of Michigan, Ann Arbor)

13-15. **Data Processing and Acquisition in Biology and Medicine**, conf., Rochester, N.Y. (K. Enslein, 42 East Ave., Rochester 14604)

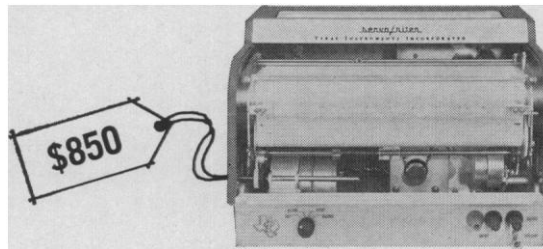
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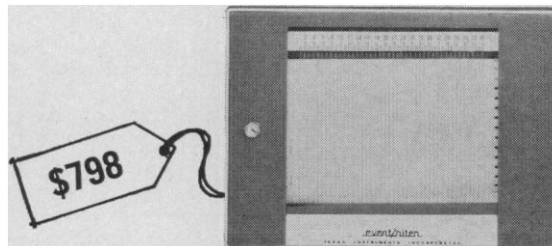
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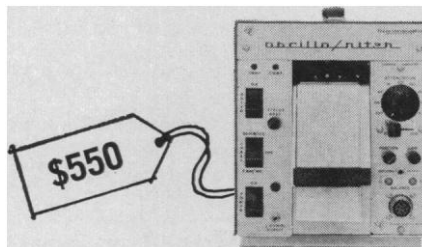
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13-17. Chemistry of **Carbohydrates**, intern. symp., Münster, Germany. (F. Micheel, Organisch-Chemisches Institut, Universität, Hindenburgplatz 55, Münster)

13-17. International Assoc. for **Child Psychiatry** and Allied Professions, London, England. (F. H. Stone, Royal Hospital for Sick Children, 70 University Ave., Glasgow, W.2 Scotland)

13-18. **Instrumental Analytical Chemistry**, 3rd annual symp., Bethlehem, Pa. (A. J. Diefenderfer, Dept. of Chemistry, Lehigh Univ., Bethlehem)

13-18. Latin Federation of **Medical Electro-Radiological Socs.**, 6th congr., Brussels, Belgium. (Secretariat, 256 Chaussée de Wavre, Heverle-Louvain, Belgium)

14-17. **Rarefied Gas Dynamics**, 4th intern. symp., Toronto, Ont., Canada. (G. N. Patterson, Inst. of Aerophysics, Univ. of Toronto, Toronto 5)

14-17. **Regional Science Assoc.**, 4th congr., Ghent, Belgium. (W. Isard, Univ. of Pennsylvania, Philadelphia 19104)

14-17. **Western Resources Conf.**, Boulder, Colo. (Bureau of Continuation Education, 352 Chemistry Bldg., Univ. of Colorado, Boulder)

14-19. **Sociology**, 7th Latin American congr., Bogotá, Colombia. (C. E. Angulo, Facultad de Sociología, Universidad Nacional de Colombia, Bogotá)

15-19. **Pleistocene Geomorphology**, symp., Cambridge, England. (T. H. Elkins, Royal Geographical Soc., Kensington Gore, London, S.W.7, England)

16-24. **British Medical Assoc.**, annual, Manchester, England. (D. Gullick, BMA, Tavistock Sq., London, W.C.1, England)

16-24. **Organic Photochemistry**, intern. symp., Strasbourg, France. (G. S. Hammond, Gates and Crellin Laboratories of Chemistry, California Inst. of Technology, Pasadena)

18-22. International Union of **Biological Sciences**, 15th general, Prague, Czechoslovakia. (G. L. Stebbins, Dept. of Genetics, Univ. of California, Davis)

19-24. American **Veterinary Medical Assoc.**, 101st annual, Chicago, Ill. (AVMA, 600 South Michigan Ave., Chicago 5)

19-25. **Polarography**, 3rd intern. congr., Southampton, England. (D. A. Pantony, Dept. of Metallurgy, Royal School of Mines, Prince Consort Rd., London, S.W.1, England)

19-26. **Comparative Endocrinology**, 4th intern. symp., Paris, France. (L. Gallien, Laboratoire d'Embryologie, Faculté des Sciences de Paris, 9 quai St.-Bernard, Paris 5^e)

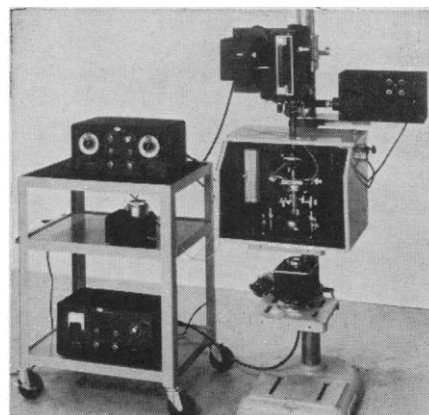
20-22. **Magnetic Resonance** in Biological Systems, Boston, Mass. (R. G. Shulman, Bell Telephone Laboratories, Murray Hill, N.J.)

20-23. New Mexico Acad. of **General Practice**, Ruidoso. (H. L. Douglas, Box 767, Tatum, N.M.)

20-24. International **Diabetes Federation**, 5th congr., Toronto, Ont., Canada. (H. Best, Organizing Council, 477 Mt. Pleasant Rd., Toronto 7)

20-24. **Nuclear Radiation Effects**, technical conf., Seattle, Wash. (Inst. of Electrical and Electronics Engineers, Box A, Lenox Hill Station, New York, N.Y. 10021)

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20-24. **Organic Reaction Mechanism**, intern. symp. Cork, Ireland. (General Secretary, Chemical Soc., Burlington House, London, W.1, England)

20-24. **Semiconductor Physics**, intern. conf., Paris, France. (M. Balkanski, Laboratoire de Physique, Ecole Normale Supérieure, 24, rue Lhomond, Paris 5^e)

20-25. **Catalysis**, 3rd intern. conf., Amsterdam, Netherlands. (D. M. Brouwer, c/o Badhuisweg 3, P.O. Box 3003, Amsterdam-N, Netherlands)

21-23. **Physiology and Experimental Psychology of Color Vision**, Ciba Foundation symp., London, England. (Ciba Foundation, 41 Portland Pl., London, W.1)

21-24. **American Malacological Union**, New Orleans, La. (M. C. Teskey, Rt. 2, Box 318, Marinette, Wis.)

21-28. **International Geographical Union**, 20th intern. congr., London, England. (T. H. Elkins, Royal Geographical Soc., Kensington Gore, London, S.W.7)

25-1. **Religion and Science**, 11th conf., Star Island, Portsmouth, N.H. (Religion and Science, 280 Newton St., Brookline, Mass. 02146)

26-29. **Photobiology**, 4th intern. congr., Oxford, England. (Blandford Site, Whiteknights Park, Reading, England)

26-31. **American Crystallographic Assoc.**, Bozeman, Mont. (B. Post, Brooklyn Polytechnic Inst., 333 Jay St., Brooklyn, N.Y.)

26-31. **Mineralogical Soc. of America**, Bozeman, Mont. (G. Switzer, MSA, U.S. Natl. Museum, Washington, D.C. 20560)

26-31. **Pharmacology**, Teachers' Seminar, Univ. of Connecticut, Storrs. (M. H. Malone, School of Pharmacy, Univ. of Connecticut, Storrs)

26-1. **Biochemistry**, 6th intern. congr., New York, N.Y. (R. A. Harte, 6th Intern. Biochemistry Congr., 9650 Wisconsin Ave., NW, Washington, D.C. 20014)

27-21. **Engineering Foundation Research Confs.** Andover, N.H. (United Engineering Center, 345 E. 47 St., New York 17)

27-28. **International Cartographic Assoc.**, 2nd general assembly, London, England. (D. E. Imhof, Kartographisches Institut, Eidgenössische Technische Hochschule, Zurich, Switzerland)

27-30. **Technical Assoc. of the Pulp and Paper Industry**, engineering conf., Seattle, Wash. (TAPPI, 360 Lexington Ave., New York, N.Y. 10017)

27-31. **American Dietetic Assoc.**, 47th annual, Portland, Ore. (ADA, 620 N. Michigan Ave., Chicago, Ill. 60611)

30-1. **International Soc. for Human and Animal Mycology**, 3rd, Edinburgh, Scotland. (R. Vanbreuseghem, Inst. of Tropical Medicine, 155 rue National, Antwerp, Belgium)

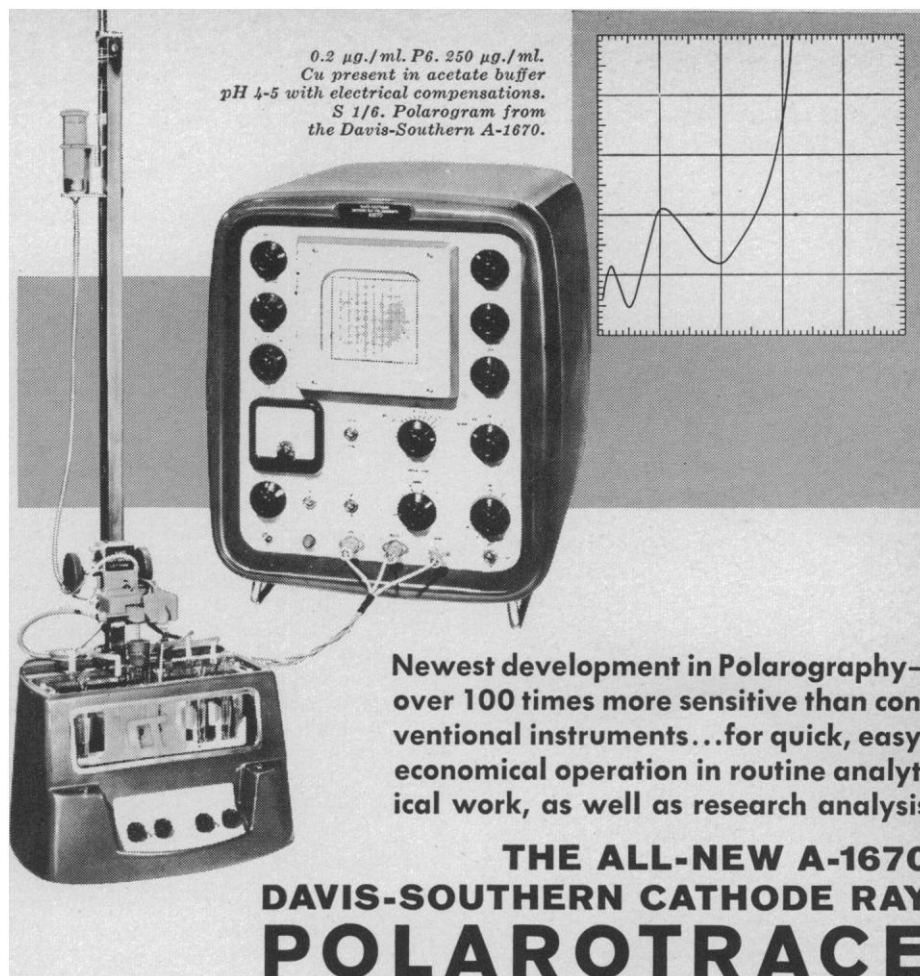
August

2-4. **American Assoc. of Colleges of Pharmacy**, New York, N.Y. (C. W. Bliven, 1507 M St., NW, Washington, D.C. 20005)

2-7. **American Pharmaceutical Assoc.**, 111th annual, New York, N.Y. (G. B. Griffenhagen Div. of Communications, 2215 Constitution Ave., NW, Washington, D.C.)

2-8. **Applied Psychology**, 15th intern.

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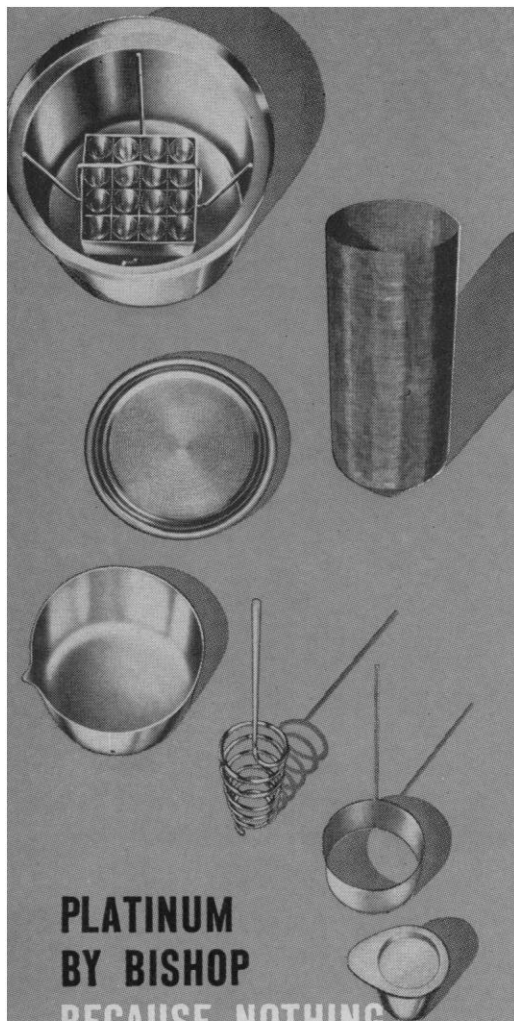
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conf., Ljubljana, Yugoslavia. (B. Petz, Inst. of Psychology of Zagreb, Djure Salaja b.b., Zagreb, Yugoslavia)

2-8. **Reactivity of Solids**, 5th intern. symp., Munich, Germany. (B. Stuke, Physikalisches-Chemisches Institut, Sophienstr. 11, Munich)

3-5. **Compounds of Interest in Nuclear Reactor Technology**, intern. symp., Boulder, Colo. (J. T. Waber, Los Alamos Scientific Laboratories, P.O. Box 1663, Los Alamos, N.M. 87544)

3-7. **Instrument Soc. of America, instrumentation conf.**, Geneva, N.Y. (H. S. Kindler, 530 William Penn Place, Pittsburgh, Pa.)

3-7. **World Federation for Mental Health**, 17th annual, Bern, Switzerland. (F. Cloutier, 1, rue Gevray, Geneva, Switzerland)

3-8. **International Years of the Quiet Sun**, regional symp., Buenos Aires, Argentina. (J. G. Roederer, Facultad de Ciencias, Perú 272, Buenos Aires)

3-10. **Anthropologists and Ethnologists**, 7th world conf., Moscow, U.S.S.R. (American Anthropological Assoc., 1530 P St., NW, Washington, D.C. 20005)

3-12. **Botanical Congr.**, 10th intern., Edinburgh, Scotland. (Miss S. C. Penny, 5 Hope Park Sq., Edinburgh 8)

4-7. **Poultry Science Assoc.**, annual, Minneapolis, Minn. (E. L. Johnson, Dept. of Poultry Science, Univ. of Minnesota, St. Paul 55101)

4-17. **Methods of Hydrological Forecasting**, 3rd inter-regional seminar, World Meteorological Organization/UN Economic Commission for Asia and the Far East, Bangkok, Thailand. (WMO, Secretariat, Geneva, Switzerland)

5-7. **Sonic Investigations on Internal Damping in Solids**, symp., London, England (Administration Assistant, Institute of Physics and the Physical Society, 47 Belgrave Square, London, S.W.1)

5-12. **Atmospheric Radiation**, symp., World Meteorological Organization/Intern. Union of Geodesy and Geophysics, Leningrad, U.S.S.R. (Secretariat, WMO, Geneva, Switzerland)

5-15. **High Energy Physics**, 12th intern. conf., Dubna, U.S.S.R. (M. L. Goldberg, Commission on High Energy Nuclear Physics, IUPAC, Princeton Univ, Princeton, N.J. 08540)

6-11. **American Podiatry Assoc.**, New York, N.Y. (F. A. Kalbacher, American Podiatry Assoc., 3301 16th St., NW, Washington, D.C. 20010)

7-14. **Scientific Study on Mental Retardation**, intern. congr., Copenhagen, Denmark. (A. Dupont, Statens Andsvageforsorg, Nyropsgade 28.2, Copenhagen 5)

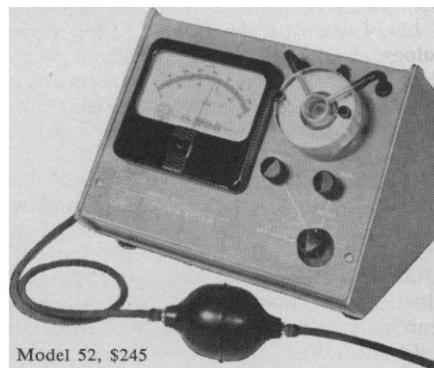
9-12. **Heat Transfer**, 7th natl. conf., Cleveland, Ohio. (W. Chenoweth, American Inst. of Chemical Engineers, 345 E. 47 St., New York 17)

9-13. **American Soc. of Animal Science**, Knoxville, Tenn. (J. E. Oldfield, Dept. of Animal Science, Oregon State Univ., Corvallis)

9-14. **South American Union of Engineers' Federations**, 10th conv., Rio de Janeiro, Brazil. (Federação Brasileira de Associações de Engenheiros, Caixa Postal 1229, Rio de Janeiro)

10-14. **Structural Developments in In-**

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organic Chemistry, New Hampton, N.H. (W. G. Parks, Dept. of Chemistry, Univ. of Rhode Island, Kingston)

10-15. Pan American Federation of Engineering Socs. 8th biennial conv., Caracas, Venezuela. (L. K. Wheelock, Engineers Joint Council, 345 E. 47 St., New York 10017)

11-14. American Soc. for Pharmacology and Experimental Therapeutics, San Francisco, Calif. (H. G. Mandel, George Washington Univ. Medical School, Washington, D.C. 20005)

12-14. Ballistic Missile and Space Technology, 9th symp., U.S. Naval Training Center, San Diego, Calif. (C. Morrow, Aerospace Corp., P.O. Box 95085, Los Angeles, Calif. 90045)

12-14. Galaxies, preliminary conf., Uppsala, Sweden. (T. Page, Van Vleck Observatory, Wesleyan Univ., Middletown, Conn. 06457)

12-14. X-Ray Analysis Applications, 13th annual conf., Denver, Colo. (W. G. Mueller, Metallurgy Div., Denver Research Inst., Denver 80210)

13-15. International Soc. for Horticultural Science, Edinburgh, Scotland. (G. de Bakker, Le v.d. Boschstraat 4, The Hague, Netherlands)

16-21. Histochemistry and Cytochemistry, intern. congr., Frankfurt am Main, Germany. (T. H. Schiebler, Anatomisches Institut der Universität, Koellikerstr. 6, 87 Würzburg, Germany)

16-23. Latin American Schools of Medicine, 4th conf., Pocos de Caldas, Brazil. (O. Versiani Caldeira, Univ. of Minas Gerais Medical School, Belo Horizonte, Minas Gerais, Brazil)

16-24. Human Economy, conf., Inst. of Paper Chemistry, Appleton, Wis. (A. N. McLeod, IPC, Appleton)

17-20. American Assoc. of Clinical Chemists, 16th natl., Boston, Mass. (F. F. Ronan, AACC, 19 Bay State Rd., Boston 15)

17-20. Natural Ultra Low Frequency Electromagnetic Fields, symp., Boulder, Colo. (W. H. Campbell, National Bureau of Standards, Boulder)

17-21. Combustion, 10th intern. symp., Cambridge, England. (Combustion Inst., 986 Union Trust Bldg., Pittsburgh 19, Pa.)

17-21. Cryogenic Engineering, conf., Philadelphia, Pa. (K. D. Timmerhaus, Engineering Research Center, Ketchum 129, Univ. of Colorado, Boulder)

17-21. Simulation in Space Technology, Blacksburg, Va. (F. J. Maher, Virginia Polytechnic Inst., Blacksburg)

17-22. International Astronomical Union, symp., Thessaloniki, Greece. (Maj. B. R. Agins, Air Force Office of Scientific Research, SRMA, Washington, D.C. 20333)

17-22. Cardiology, 4th European congr., Prague, Czechoslovakia. (H. Kafka, Karlovo nám. 32, Prague 2)

17-22. Endocrinology, 2nd intern. congr., London, England. (A. S. Mason, London Hospital, Whitechapel, London, E.1)

17-22. Social Psychiatry, 1st intern. congr., London, England. (J. Bierer, 7 Hollycroft Ave., London, N.W.3)

17-28. Molecular Biophysics, intern. inst., Squaw Valley, Calif. (Prof. Weiss-



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18-20. International Assoc. of Milk and Food Sanitarians, Portland, Ore. (H. L. Thomasson, P.O. Box 437, Shelbyville, Ind.)

19-21. Physiology of Digestion in the Ruminant, 2nd intern. symp., Ames, Iowa. (R. W. Dougherty, Box 70, Ames)

20-21. National Council of Teachers of Mathematics, Minneapolis, Minn. (J. D. Gates, NCTM, 1201 16th St. NW, Washington, D.C. 20036)

22. American Inst. of Ultrasonics in Medicine, 9th annual, Boston, Mass. (W. J. Fry, Biophysical Research Laboratory, Univ. of Illinois, Urbana)

22-24. History of Astronomy, symp., Hamburg, Germany. (B. Sticker, Institut für Geschichte der Naturwissenschaften, Universität Hamburg, Hartnungstr. 5, 2 Hamburg 13, Germany)

22-28. American Soc. of Human Genetics, Boulder, Colo. (S. H. Boyer, Johns Hopkins Hospital, Baltimore, Md.)

23. American Assoc. of Electromyography, annual, Boston, Mass. (M. K. Newman, 16861 Wyoming Ave., Detroit, Mich. 48221)

23-26. American Phytopathological Soc., Lafayette, Ind. (J. R. Shay, Purdue Univ., Lafayette)

23-26. Soil Conservation Soc. of America, 19th annual, Jackson, Miss. (SCS, 7515 Northeast Ankeny Rd., Ankeny, Iowa)

23-28. American Inst. of Biological Sciences, annual, Boulder, Colo. (AIBS, 2000 P St. NW, Washington, D.C. 20036)

23-28. American Congr. of Physical Medicine and Rehabilitation, Boston, Mass. (G. Gullickson, Jr., 30 N. Michigan, Chicago, Ill.)

24-26. American Inst. of Aeronautics and Astronautics, Los Angeles, Calif. (AIAA, 1290 Sixth Ave., New York, N.Y.)

24-26. Society for Cryobiology, annual, Washington, D.C. (V. P. Perry, Tissue Bank Dept., U.S. Naval Medical School, National Naval Medical Center, Bethesda, Md. 20014)

24-26. Education in the Nuclear Power Era, conf., Gatlinburg, Tenn. (M. L. Nelson, Education Div., Oak Ridge Natl. Laboratory, P.O. Box 117, Oak Ridge, Tenn.)

24-26. Mathematical Assoc. of America, summer meeting, Univ. of Massachusetts, Amherst. (H. M. Gehman, Univ. of Buffalo, Buffalo 14, N.Y.)

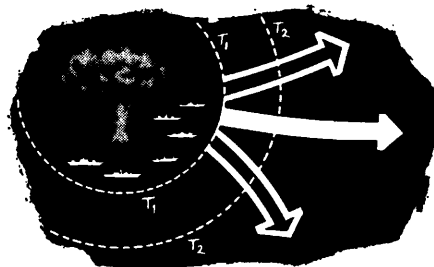
24-27. American Hospital Assoc., Chicago, Ill. (E. L. Crosby, 840 N. Lake Shore Dr., Chicago 11)

24-27. Toxicology and Occupational Medicine, 4th inter-American conf., Miami Beach, Fla. (W. Machle, Univ. of Miami School of Medicine, Coral Gables, Fla.)

24-28. International Council of the Aeronautical Sciences, 4th congr., Paris, France. (American Inst. of Aeronautics and Astronautics, 2 E. 64 St., New York, N.Y. 10021)

24-28. Astrodynamics Guidance and Control, conf., Los Angeles, Calif. (K. Watanabe, 4731 B Engineering Bldg. III, Univ. of California, Los Angeles 24)

24-28. American Astronautical Soc.,



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24-28. Society for **Industrial and Applied Mathematics**, Amherst, Mass. (W. S. Dorn, I.B.M. T. J. Watson Research Center, P.O. Box 218, Yorktown Heights, N.Y.)

24-28. **Scandinavian Mathematical Congr.**, Copenhagen, Denmark. (Secretariat, The Congress, c/o Mathematical Inst., H. C. Ørsted Inst., Universitetsparken 5, Copenhagen Ø)

24-28. **American Mathematical Soc.**, New York, N.Y. (G. L. Walker, AMS, 190 Hope St., Providence, R.I.)

24-28. **Preventive Cardiology**, first intern. conf., Burlington, Vt. (W. Raab, Preventive Heart Reconditioning Foundation, 206 Summit St., Burlington, Vt.)

24-28. **Water Pollution Research**, 2nd intern. conf., Tokyo, Japan. (Water Pollution Control Federation, 4435 Wisconsin Ave., Washington, D.C. 20016)

24-29. **Psychotherapy**, 6th intern. congr., London, England. (F. Pannell, The Congress, 11 Whitehall Ct., London, S.W.1)

24-3. **International Assoc. of Agricultural Economists**, 12th triennial conf., Lyons, France. (French Organization Committee of the Conference, 4, rue de Las-teyrie, Paris 16^e, France)

25-27. **Association for Computing Machinery**, 19th annual, Philadelphia, Pa. (H. S. Bright, Philco Computers, Willow Grove, Pa.)

25-28. **Western Electronics Show and Conv. (WESCON)**, Inst. of **Electrical and Electronics Engineers**, summer meeting, Los Angeles, Calif. (R. R. Bennett, Suite 1920, 3600 Wilshire Blvd., Los Angeles)

25-29. **Audiology**, 7th intern. congr., Copenhagen, Denmark. (H. W. Ewertsen, c/o State Hearing Centre, 7 D. Tvaergade, Copenhagen K)

25-3. **International Astronomical Union**, 12th general assembly, Hamburg, Germany. (D. A. Bell, c/o Royal Greenwich Observatory, Hertsmonceaux Castle, Hailsham, Sussex, England)

26-2. **British Association for the Advancement of Science**, 126th annual, Southampton, England. (BAAS, 3 Sanctuary Bldgs., London, S.W.1, England)

26-2. **Logic, Methodology, and Philosophy of Science**, intern. conf., Jerusalem, Israel. (Y. Bar-Hillel, Hebrew Univ., Jerusalem)

26-3. **Electron Microscopy**, 3rd European regional conf., Prague, Czechoslovakia. (Organizing Committee, Albertov 4, Prague 2)

27. **American Soc. for Horticultural Science**, Amherst, Mass. (R. E. Marshall, AMHS, Dept. of Horticulture, Michigan State Univ., East Lansing)

27-28. **Activation Analysis**, Glasgow, Scotland. (J. M. A. Lenihan, Western Regional Hospital Board, 9 W. Greham St., Glasgow, C.4)

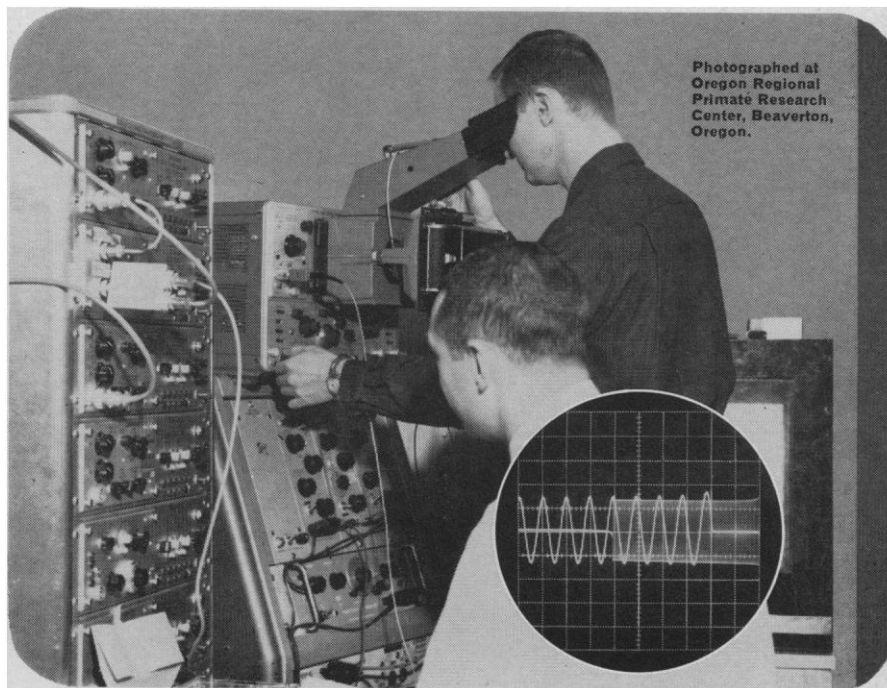
27-29. **Reactive Intermediates in Organic Chemistry**, symp., Quebec City, P.Q., Canada. (C. R. Engel, Faculté des Sciences, Université Laval, Quebec City)

28-3. **Neurology**, 8th intern. congr., Vienna, Austria. (H. Hoff, Medizinische Fakultät, Neurologische und Psychiatrische Abteilung, Vienna 9)

12 JUNE 1964



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