

a table of selected values "is like trying to assemble a jigsaw puzzle with part of the pieces missing and with some of the pieces swollen or shrunken from their true shapes."

A twin recording calorimeter is used at the University of Muenster, Germany, to measure heat capacities of electrolytes and organic compounds near room temperature (Th. Ackerman). The University of Lund, Sweden, was well represented by Stig Sunner and Ingemar Wadsö. Sunner described a high-precision calorimeter developed there and its application to direct measurements of heats of vaporization of water and of octane and other organic compounds. Wadsö discussed improvements in their reaction calorimeter.

Heats of fusion of iron, nickel, and silicon have been measured, with an accuracy previously unattainable, with a high-temperature drop calorimeter of excellent precision which has been developed at Irsid, France (M. Odette).

From England, J. S. L. Leach (Imperial College, London) and John N. Pratt (University of Birmingham) described liquid-tin-solution-calorimeters. P. Paraskevoudakis described an x-ray radiant-energy calorimeter used at the Puerto Rico Nuclear Center.

George Cataland (National Bureau of Standards) reported on a provisional temperature scale from 2° to 20°K. This research was prompted, in part, by a request from the Calorimetry Conference. Germanium-resistance thermometers were described by G. Ahlers (Bell Telephone Laboratories) and silicon-resistance thermometers by William V. Johnston (North American Aviation). Albert Benjaminson (Dymech Division, Hewlett-Packard) described a digital quartz thermometer in which the temperatures from -40° to 230°C are presented in digital form with precision as high as 0.0001 degree. Quartz crystals are frequently cut for electronic applications on planes for which the frequency of vibration is nearly constant with temperature. For the quartz digital thermometer the cut is made to give a maximum sensitivity of frequency to temperature.

Darrel W. Osborne reported that standard copper samples are available at Argonne National Laboratory for measurements of heat capacity below 25°K. The samples are cylindrical with an outside diameter of 3.17 cm. Borrowers may machine them but should return the samples to Argonne after

testing them. G. Ahlers (Bell Telephone Laboratories) reported on measurements of several copper samples from 1.2° to 20°K.

Several participants discussed automatic adiabatic controls, automation of readings, and other improvements in the designs of calorimeters. A. Navrotsky (University of Chicago) described a new high-temperature solution calorimeter which uses oxide solvents for the purpose of determining heats of formation of oxides such as MgAl_2O_4 .

For two sessions the meeting divided itself into small groups, where problems were discussed in specialized fields of interest to the members of the group. Among the topics were: solution calorimetry, bomb calorimetry, automation of measurements, thermometry, and low-temperature calorimetry. These groups permitted discussion of trends in calorimetry and needs of the future.

In his banquet speech Frank H. Spedding recounted how Iowa State University fulfilled its wartime assignment of producing large quantities of uranium. He interspersed his story with many humorous incidents as they actually happened.

At the business meeting O. J. Kleppa was elected to the position of chairman-elect and program chairman for the next conference. The following new directors were also elected: G. T. Furukawa (National Bureau of Standards), B. C. Gerstein (Iowa State University), and B. J. Zwolinski (Texas A. and M. University). Ralph Hultgren (University of California, Berkeley) will replace W. N. Hubbard (Argonne National Laboratory) as the chairman of the Calorimetry Conference.

An innovation at the conference was the display of commercial calorimetry equipment. It is now becoming possible to purchase calorimeters and parts of calorimeters. Formerly such equipment had to be designed and constructed by the experimenter.

The proceedings are not published; abstracts of the papers were distributed at the meeting.

The 21st Calorimetry Conference will be held at the University of Colorado, Boulder, Colorado, 22-24 June 1966. Information about program and attendance can be obtained from the program chairman, O. J. Kleppa, Institute for the Study of Metals, University of Chicago, Chicago, Illinois.

RALPH HULTGREN
University of California, Berkeley

Forthcoming Events

November

24-29. American College of **Apothecaries**, Inc., Miami Beach, Fla. (R. E. Abrams, Hamilton Court Hotel, 39th and Chestnut St., Philadelphia, Pa. 19104)

25. Central Assoc. of **Science and Mathematics Teachers**, Chicago, Ill. (A. M. Hach, 1220 Wells St., Ann Arbor, Mich.)

25-27. National Council for **Geographic Education**, New York, N.Y. (T. G. Gault, The Council, Indiana State College, Indiana, Pa.)

25-27. **Reinforced Plastics**, 4th intern. conf., British Plastics Federation, London, England. (The Federation, 47-48 Piccadilly, London, W.1)

26-27. **Interactions of Space Vehicles with an Ionized Atmosphere**, 2nd symp., Univ. of Miami, Coral Gables, Fla. (A. R. Hochstim, Inst. for Defense Analyses, 400 Army-Navy Drive, Arlington, Va.)

26-27. American Inst. of **Ultrasonics in Medicine**, 1st Pan American meeting, Lima, Peru. (C. Bustamante Ruiz, Dept. of Physical Medicine and Rehabilitation, Hospital Obrero, Lima)

28-3. **Radiological Soc. of North America**, Chicago, Ill. (M. D. Frazer, 713 Genesee St., Syracuse, N.Y.)

28-4. **Odontological Federation of Central America and Panama**, San Jose, Costa Rica. (R. Pauly S., Univ. of Costa Rica, San Jose)

28-4. **Odontological Soc. of Chile**, 5th intern. congr., Santiago. (J. Pequeño, San Antonio 510, Santiago)

29-30. **Biochemical and Pharmacological Aspects of Basal Ganglia Disease**, symp., Columbia Univ. College of Physicians and Surgeons, New York, N.Y. (M. D. Yahr, New York Neurological Inst., 710 W. 168 St., New York 10032)

29-2. **Entomological Soc. of America**, New Orleans, La. (R. H. Nelson, ESA, 4603 Calvert Rd., College Park, Md., 20740)

29-3. **Metallurgy**, 1st operating conf., Pittsburgh, Pa. (Metallurgical Soc. of American Inst. of Mechanical Engineers, 345 E. 47 St., New York 10017)

29-3. **Phytopharmacology**, intern. conf., Amsterdam, Netherlands. (California Chemical S.A. Française, 19, avenue George V, Paris 8°)

29-4. **Space Technology and Science**, 6th intern. symp., Tokyo, Japan. (D. Mori, Inst. of Space and Aeronautical Science, Univ. of Tokyo, 856 Koma-ba-machi, Meguro-ku, Tokyo)

29-8. **Rehabilitation of Persons with Dulled Sensory Perception**, intern. conf., Braunschweig, Germany. (Sonnenberg Intern. Center, P.O. Box 460, 33 Braunschweig)

30-2. **Computers**, fall conf., Las Vegas, Nev. (R. Sheehy, Bunker-Ramo Co., 8433 Fallbrook Ave., Canoga Park, Calif.)

December

1-3. **Ultrasonics**, symp., Boston, Mass. (J. H. Rowen, Bell Telephone Laboratories, Murray Hill, N.J. 07971)

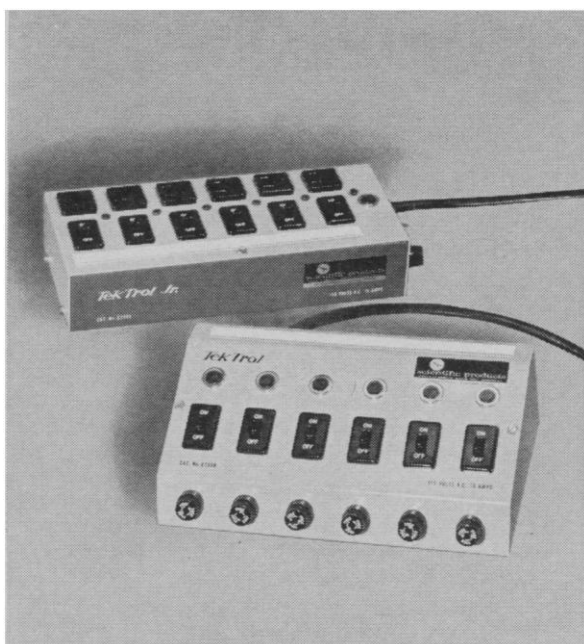
1-3. American **Water Resources Assoc.**, first annual, Univ. of Chicago, Chicago, Ill. (AWRA, P.O. Box 434, Urbana, Ill.)

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2-3. **Bone Marrow**, conf., San Francisco, Calif. (L. J. Cole, Experimental Pathology Branch, U.S. Naval Radiological Defense Laboratory, Hunter Point, San Francisco 94135)

2-3. Society of **Plastics Engineers**, regional technical conf., Newark, N.J. (SPE, 65 Prospect St., Stamford, Conn. 06902)

3-5. **Leptospirosis**, intern. colloquium, Antwerp, Belgium. (A. Grare, Inst. de Médecine, Tropicale Prince-Leopold, Antwerp)

3-5. Academy of **Psychoanalysis**, mid-winter meeting, New York, N.Y. (H. Davidman, 125 E. 65 St., New York 10021)

3-5. American **Psychoanalytic Assoc.**, fall meeting, New York, N.Y. (APA, 1 E. 57 St., New York 10022)

3-4. **Macromolecular Metabolism**, symp., New York, N.Y. (New York Heart Assoc., 10 Columbus Circle, New York 10019)

5. American Acad. of **Dental Medicine**, mid-winter annual meeting, New York, N.Y. (S. Conrad, 133-28 228th St., Laurelton, N.Y. 11413)

5-9. American Inst. of **Chemical Engineers**, Philadelphia, Pa. (AIChE, 345 E. 47 St., New York 10017)

5-11. American **Rheumatism Assoc.**, congr., Mar del Plata, Argentina. (G. Speyer, 10 Columbus Circle, New York)

6. **Food Law** Inst. and Food and Drug Administration, joint educational conf., Washington, D.C. (FDA, Washington, D.C.)

6-7. Medical and Social Aspects of **Migration**, Ciba Foundation guest symp., London, England. (Ciba, 41 Portland Pl., London, W.1)

6-8. **Transmission of Viruses** by the Water Route, symp., Cincinnati, Ohio. (G. Berg, U.S. Public Health Service, 4676 Columbia Parkway, Cincinnati 45226)

6-10. **Space Communication**, Paris, France. (UNESCO, Pl. de Fontenoy, Paris 7^e)

6-10. Practices in the Treatment of Low and Intermediate Level **Radioactive Wastes**, symp., Vienna, Austria. (Intern. Atomic Energy Agency, Kärtner Ring 11, Vienna 1)

6-10. Structure and Function of the **Nucleolus**, symp., Montevideo, Uruguay. (F. A. Saez, Instituto de Investigaciones de Ciencias Biológicas, avda. Italia 3318, Montevideo)

6-12. **Hydraulics and Fluid Mechanics**, 2nd Australasian conf., Auckland, New Zealand. (A. J. Raudkivi, Univ. of Auckland, School of Engineering, Ardmore College Post Office, Auckland)

7-10. American Soc. of **Agricultural Engineers**, winter meeting, Chicago, Ill. (J. L. Butt, P.O. Box 229, St. Joseph, Mich.)

8-10. **Coccidioidomycosis**, 2nd natl. symp., Phoenix, Ariz. (Arizona Tuberculosis and Health Assoc., 733 W. McDowell Rd., Phoenix 85007)

8-10. Changing Concepts of **Human Habitation**, symp., Roorkee, India. (D. Mohan, Central Building Research Inst., Roorkee)

8-10. New Concepts in **Gynecological Oncology**, symp., Hahnemann Medical College and Hospital, Philadelphia, Pa.

(Miss S. Rosen, Hahnemann Medical College and Hospital, 230 N. Broad St., Philadelphia 19102)

8-15. American Acad. of **Optometry**, Chicago, Ill. (C. C. Koch, 1506 Foshay Tower, Minneapolis, Minn.)

9-10. **Ciba Foundation** guest meeting European Pancreatic Club. London, England. (H. T. Howat, 41 Portland Pl., London, W.1)

12-14. **Lymphatic System**, intern. conf., New Orleans, La. (H. S. Mayerson, Dept. of Physiology, School of Medicine, Tulane Univ., New Orleans 70112)

13-15. **Aerothermochemistry of Turbulent Flows**, conf., American Inst. of Aeronautics and Astronautics, San Diego, Calif. (H. Yoshihara, Space Sciences Laboratory, Mail Zone, 596-00, General Dynamics/Astronautics, Kearny Villa Rd., San Diego)

13-15. European **Biological Editors**, Paris, France. (D. S. Ferner, Dept. of Biology, Univ. of Washington, Seattle)

13-15. Radiological Protection in the **Industrial Use of Radioisotopes**, intern. conf., Paris, France. (J Pradel, 66 rue Augustin Dumont, Malakoff, Seine, France)

13-18. **Engineering and Technological Sciences**, conf., Bangkok, Thailand. (P. Purachatra, Assoc. of Southeast Asian Insts. of Higher Learning, Chulalongkorn Univ., Race Course Rd., Bangkok)

15-18. **Microbiology**, 1st Central American congr., Univ. of Costa Rica, San José. (F. Montero-Gei, School of Microbiology, Univ. of Costa Rica, Apartado 2157, San José)

19-21. Middle East **Neurological Soc.**, Jerusalem, Jordan. (F. S. Haddad, Orient Hospital, Beirut, Lebanon)

19-23. Indian **Statistical Inst.**, Malleswaram, Bangalore. (S. R. Ranganathan, Indian Statistical Inst., Documentation Research and Training Centre, 112 Cross Rd. 11, Malleswaram)

20-21. **Nuclear Medicine**, 2nd natl. congr., Tel Aviv, Israel. (P. Czerniak, Israel Atomic Commission, Soreq Nuclear Research Center, Doar Yavne)

20-22. British **Biophysical Soc.**, 20th winter meeting, London, England. (R. E. Burge, Physics Dept., Queen Elizabeth College, Campden Hill Rd., London W.8)

20-22. American **Physical Soc.**, Los Angeles, Calif. (W. Whaling, California Inst. of Technology, Pasadena 91109)

26-31. **American Assoc. for the Advancement of Science**, annual, Berkeley, Calif. (R. L. Taylor, AAAS, 1515 Massachusetts Ave., NW, Washington, D.C.)

In addition to the 20 sections of the Association and five AAAS committees, the following organizations have arranged sessions at AAAS annual meeting 26-31 December in Berkeley:

Mathematics

American Mathematical Soc. (R. S. Pierce, Univ. of Washington, Seattle)

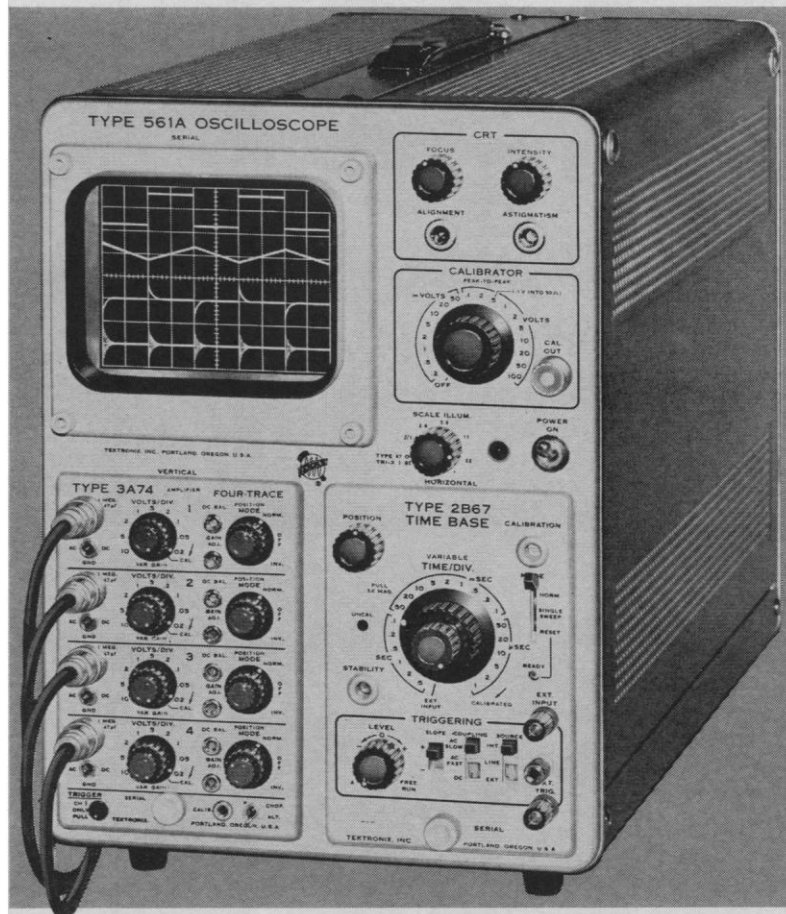
Association for Computing Machinery. (H. D. Huskey, Univ. of California, Berkeley)

National Council of Teachers of Mathematics. (J. D. Gates, 1201 16 St., NW, Washington, D.C.)

Society for Industrial and Applied Mathematics (J. H. Griesmer, IBM, Yorktown Heights, N.Y.)

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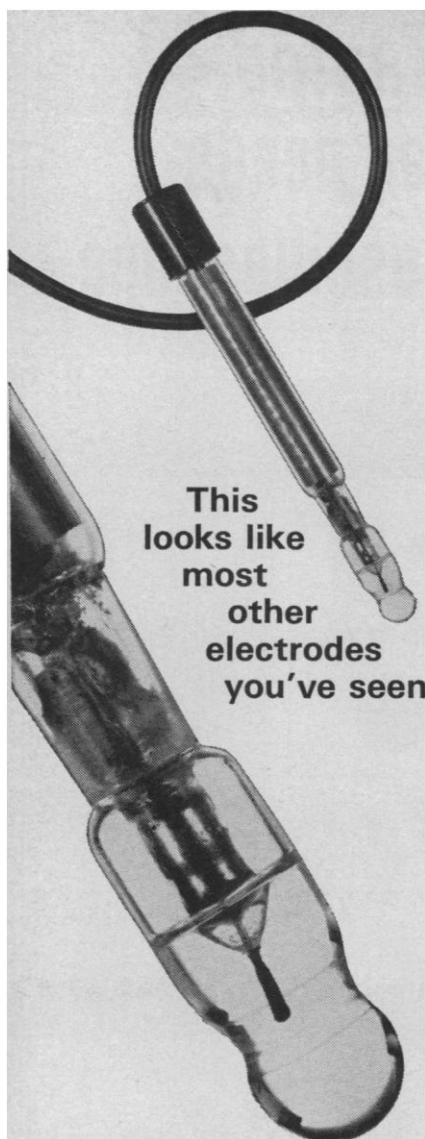
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Physics

American Astronautical Soc. (P. B. Richards, General Precision, Little Falls, N.J.)

Chemistry

American Chemical Soc., California Section. (R. L. LeTourneau, Chevron Research Co., Richmond, Calif.)

Astronomy

American Astronomical Soc. (G. C. McVittie, Univ. of Illinois, Urbana)

Geology and Geography

Association of American Geographers. (M. Mikesell, Univ. of Chicago, Chicago, Ill.)

National Geographic Soc. (R. Gray, 17th & M Sts., NW, Washington, D.C.)

National Speleological Soc. (G. W. Moore, U.S. Geological Survey, Menlo Park, Calif.)

Zoological Sciences

American Fisheries Soc. (H. K. Chadwick, California Dept. of Fish and Game, Sacramento)

American Soc. of Zoologists. (A. G. Richards, Univ. of Minnesota, St. Paul)

Animal Behavior Soc. (E. M. Banks, Univ. of Illinois, Urbana)

Herpetologists' League. (F. B. Turner, Univ. of California, Los Angeles)

Society of Systematic Zoology. (J. G. Rozen, Jr., American Museum of Natural History New York, N.Y.)

Zoological and Botanical Sciences

American Soc. of Naturalists. (C. Hubbs, Scripps Inst. of Oceanography, La Jolla, Calif.)

Ecological Soc. of America. (G. M. Woodwell, Brookhaven Natl. Laboratory, Upton, L.I., N.Y.)

Western Soc. of Naturalists. (J. M. Craig, San Jose State College, San Jose, Calif.)

Psychology

Western Psychological Assoc. (G. A. Mendelsohn, Univ. of California, Berkeley)

Social and Economic Sciences

American Economic Assoc. (R. R. Nelson, RAND Corp., Santa Monica, Calif.)

American Political Science Assoc. (J. F. Triska, Stanford Univ., Stanford, Calif.)

American Soc. of Criminology. (C. Newman, Univ. of Louisville, Louisville, Ky.)

American Sociological Assoc. (W. Form, Michigan State Univ., East Lansing)

Metric Assoc. (R. Fischelis, Ohio Northern Univ., Ada)

National Inst. of Social and Behavioral Science. (D. P. Ray, 863 Benjamin Franklin Station, Washington, D.C.)

Population Assoc. of America. (E. S. Lee, Univ. of Pennsylvania, Philadelphia)

Society for the Scientific Study of Religion. (C. Y. Glock, Univ. of California, Berkeley)

History and Philosophy of Science

Philosophy of Science Assoc. (C. W. Churchman, Univ. of California, Berkeley)

Society for General Systems Research. (H. Thal-Larsen, Univ. of California, Berkeley)

Science Courses for Baccalaureate Education Project. (V. L. Parsegian, Rensselaer Polytechnic Inst., Troy, N.Y.)

Medical Sciences

Alpha Epsilon Delta. (M. L. Moore, 7 Brookside Circle, Bronxville, N.Y.)

American Assoc. of Bioanalysts, Western Region. (M. Menesini, 1287 Rudgear Rd., Walnut Creek, Calif.)

American Physiological Soc. (R. M. Iverson, Univ. of Miami, Coral Gables, Fla.)

American Soc. for Microbiology, Northern California-Hawaiian Branch. (K. J. Taylor, Cutter Laboratories, Berkeley, Calif.)

California Veterinary Medical Assoc. (A. G. Edward, Univ. of California, Davis)

Society for Experimental Biology and Medicine, Pacific Coast Section. (E. L. Dobson, Donner Laboratories, Univ. of California, Berkeley)

Education

Commission on Science Education. (J. R. Mayor, AAAS, 1515 Massachusetts Ave., NW, Washington, D.C. 20005)

American Nature Study Soc. (H. E. Weaver, Univ. of Illinois, Urbana)

National Assoc. for Research in Science Teaching. (F. B. Dutton, Michigan State Univ., East Lansing)

National Assoc. of Biology Teachers. (H. K. Wong, Menlo-Atherton High School, Atherton, Calif.)

National Science Teachers Assoc. (A. F. Eiss, 1201 16 St., NW, Washington, D.C. 20005)

Information and Communication

National Assoc. of Science Writers. (L. S. Zahn, Hill and Knowlton Inc., 150 E. 42 St., New York, N.Y.)

Society of Technical Writers and Publishers. (G. Marx, Illinois Inst. of Technology, Chicago)

Statistics

BIO: Biomedical Information-Processing Organization. (M. Woodbury, New York Univ. Medical Center, New York, N.Y.)

Biometric Soc., ENAR. (D. S. Robson, Cornell Univ., Ithaca, N.Y.)

Biometric Soc., WNAR. (S. W. Nash, Univ. of British Columbia, Vancouver, Canada)

Mathematical Statistics and Probability, 5th Berkeley symp. (J. Neyman, Statistical Laboratory, Univ. of California, Berkeley)

Science in General

Academy Conf. (J. T. Self, Univ. of Oklahoma, Norman)

Scientific Research Soc. of America (D. B. Prentice, 51 Prospect St., New Haven, Conn.)

Sigma Delta Epsilon. (Miss A. Hanson, Univ. of Minnesota, Minneapolis)

Society of the Sigma Xi. (T. T. Holme, 51 Prospect St., New Haven, Conn.)

27-29. Academy of Management, New York, N.Y. (P. P. LeBreton, College of Business Administration, Univ. of Washington, Seattle)

27-30. Differential Equations and Dynamical Systems. Univ. of Puerto Rico, Mayaguez. (Center for Dynamical Systems, Brown Univ., Providence, R.I.)