

the experimental data needed for the study of re-entry ablation and wake chemistry of high polymers, composites, and refractory materials were noted by John I. Slaughter (Aerospace Corporation). Much of the existing high-temperature and high-pressure data are unreliable. A particular problem requiring research is the generation of free electrons and negative-ion formation in high-temperature chemical reactions. L. S. Nelson (Sandia Corporation) described the possibilities of experimentation with condensed-phase microspecimens (linear dimensions in the range of 1 to 1000 microns), suddenly raised to high temperatures by means of intense thermal pulses (produced by shockwaves, various electromagnetic-radiation sources, capacitor discharges, or chemical heating methods, such as flames or explosions). An example cited was the production of tungsten vapor at close to 7000°K by flash-lamp heating of fine wire. By a similar heating technique, the complex phenomena associated with the combustion of freely falling droplets of refractory metals, such as zirconium in oxygen and in air, have been studied at temperatures up to 3000°K. Harold L. Schick (Lockheed Missiles and Space Company) recommended expansion of the JANAF chemical thermodynamics tables to include higher temperatures (up to 20,000°K) and a wider range of molecular and ionic species. He also pointed out the need for chemical kinetics data at high temperatures, both for elementary gas reactions and for heterogeneous solid-gas reactions, and the need for transport and optical data on gases at high temperatures. He cited future applications, such as the contemplated Pioneer series of solar probes (approaching within 0.1 astronomical unit of the sun), and re-entry conditions faced on Mars. Schick also mentioned the possible value of a journal devoted to high-temperature research, and the possibility of courses and graduate specialization in this field.

Raymond F. Baddour (Massachusetts Institute of Technology) discussed chemical synthesis in plasmas from the engineering point of view. A kinetically controlled mechanism set up in the carbon-hydrogen system when subjected to a continuous electric discharge produces acetylene in much higher yield than that theoretically attainable under equilibrium conditions. In general, the plasma generates transient precursors (such as C_2H in the carbon-

hydrogen reaction) which are capable of combining in a variety of ways during quenching. Significant progress could be made if the desired precursors could be generated at low gas temperature, to avoid the loss of energy entailed by quenching. Steps in this direction have been taken by the use of microwave discharges. Successful examples are the conversion of methane to acetylene and hydrogen, and the conversion of sulfur dioxide and oxygen to sulfur trioxide.

Daniel Cubicciotti (Stanford Research Institute) discussed vapor pressure measurements on refractory materials and pointed out that there are practically no experimental data on heats of fusion above 1500°K. He called attention also to the special problems generated by high thermal gradients and heat fluxes. Charles W. Beckett (National Bureau of Standards) expressed the need for a complete array of measurement techniques to provide for systematic surveys of the properties and reactions of materials at high temperatures. Systematic investigations of all technically important classes of compounds are needed as a basis for a wide variety of immediate and future applications. He called for action to put such a program of investigations into effect.

Research on the containment of liquid metals up to 5000°K and methods of estimating their physical properties were described by A. V. Grosse (Research Institute of Temple University). H. Tracy Hall (Brigham Young University) outlined an electronic principle for predicting the possible existence of "periodic" compounds capable of being formed under high temperature and high pressure (such as BN and B_2O , which have the same number of valency electrons per atom as diamond and graphite). S. J. Hruska (Purdue University) discussed the formation and growth of solids deposited from vapor on a substrate, and also the problem of crystal growth at low supersaturation in relation to crystal perfection. E. A. Gulbransen (Westinghouse Research Laboratories) described experimental studies of the rates of volatile oxide formation for certain important refractory elements (carbon, rhenium, molybdenum, tungsten, niobium, and tantalum) when exposed to oxygen at temperatures far below vaporization or melting. In the absence of a stable oxide film, reaction by these elements with oxygen is rapid. Only

the enthalpy of activation (about 21 kcal mole⁻¹) hinders it from proceeding at the collision rate.

George B. Rathmann (3M Company) summarized the theories and techniques that had been outlined at the conference, calling attention to their possible military and commercial applications. New high-temperature techniques are still needed for a variety of problems; their development and evaluation should be a conscious objective of future programs in the field. Commercial organizations should come forward, pointing out their needs. Brief presentations were offered also by M. Bowman (Los Alamos Scientific Laboratory) on fundamental high-temperature knowledge needed for improved nuclear propulsion devices; by J. R. Soulen (Pennsalt Chemicals Corp.) on a systematic search for new inorganic compounds obtained by high-temperature, high-pressure syntheses; and by Paul W. Gilles (University of Kansas) on the high temperature behavior of several nontypical systems.

The papers presented at the conference, with summaries of the discussions, will appear in a special publication to be issued by the National Academy of Sciences-National Research Council.

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Forthcoming Events

May

24-26. **Solid Propulsion**, conf., Chicago, Ill. (Chemical Propulsion Information Agency, 8621 Georgia Ave., Silver Spring, Md.)

24-26. **Ultrasonic Testing of Materials**, 2nd intern. symp., Berlin, Germany. (Kammer der Technik FV "Maschinenbau," Clara-Zetkinstr. 115-117, 108 Berlin)

25. American Soc. for **Gastrointestinal Endoscopy**, Chicago, Ill. (B. H. Sullivan, Jr., 2020 E. 93 St., Cleveland, Ohio 44106)

25-27. Society of **Radiographers**, 20th annual conf., Brighton, England. (The Society, 32 Welbeck St., London, W.1, England)

25-27. **Sulfamic Acid** and Its Electrometallurgical Applications, symp., Milan, Italy. (R. Piontelli, Laboratorio di Elettrochimica, Clinica-Fisica e Metallurgia del Politecnico di Milano, 32 Piazza Leonardo da Vinci, Milan)

26-27. **Fiber Soc.**, spring mtg., Williamsburg, Va. (L. Rebenfeld, The Society, Textile Research Inst., P.O. Box 625, Princeton, N.J.)

26-28. **American Assoc. for Cancer Research**, annual mtg., Denver, Colo. (H. J. Creech, 7701 Burholme Ave., Philadelphia, Pa. 19111)

26-28. **American Gastroenterological Assoc.**, Chicago, Ill. (D. Cayer, 2240 Cloverdale Ave., Winston-Salem, N.C.)

26-28. **American Inst. of Industrial Engineers**, 17th annual conf. and conv., San Francisco, Calif. (S. G. McIntyre, 5 Heather Lane, Hillsborough, Calif.)

28-6. **Sea**, 2nd intern. congr., Treboul-Douarnenez, France. (Federation Thermale et Climatique, 6, rue Lafayette, Rennes, Ile-et-Vilaine, France)

29-2. **Special Libraries Assoc.**, annual conv., Minneapolis, Minn. (G. Aspnes, Cargill, Inc., Minneapolis 55402)

30-1. **Canadian Nuclear Assoc.**, intern. congr., Winnipeg. (R. F. Gross, The Association, 19 Richmond St. W., Toronto 1, Ont.)

30-1. **American Ophthalmological Soc.**, White Sulphur Springs, W. Va. (S. D. McPherson, Jr., 1110 W. Main St., Durham, N.C.)

30-1. **Organic and Heavy Water Reactors and Radioisotopes**, intern. conf., Canadian Nuclear Soc., Winnipeg, Man. (R. F. Gross, 19 Richmond St. W., Toronto, Ont.)

30-2. **Recent Advances in Atherosclerosis**, intern. symp., Univ. of Athens, Athens, Greece. (A. N. Howard, Dept. of Pathology, Univ. of Cambridge, Tennis Court Rd., Cambridge, England)

30-4. **Electron Microscopy and Cytochemistry**, intern. symp., Leiden, Netherlands. (W. Th. Daems, Laboratory for Electron Microscopy, 62, Wassenaarswege, Leiden)

30-9. **Oceanography**, intern. conf., Moscow, U.S.S.R. (R. C. Vetter, Committee on Oceanography, Natl. Acad. of Sciences, 2101 Constitution Ave., Washington, D.C.)

31-2. **Tissue Culture Assoc.**, annual mtg., San Francisco, Calif. (D. C. Hetherington, Duke Univ. Hospital, Durham, N.C.)

31-3. **Society of Physical Chemistry**, 16th annual mtg., Paris, France. (G. Emschwiller, The Society, 10, rue Vanquelin, Paris 5)

June

1-3. **Electromagnetic Windows**, 8th symp., Georgia Inst. of Technology, Atlanta. (N. E. Poulos, Engineering Experiment Station, Georgia Inst. of Technology, Atlanta 30332)

1-3. **German Metallurgical Soc.**, general assembly, Baden-Baden, West Germany. (B. Trautmann, German Soc. for Metallurgy, An der Alteburger Mühle 12, Köln Marienburg, West Germany)

1-3. **Canadian Soc. of Microbiologists**, Saskatoon, Sask. (Secretary-Treasurer, Research Branch, Canada Dept. of Agriculture, Central Experimental Farm, Ottawa, Ont.)

1-3. **European Soc. of Pathology**, 1st congr., Warsaw, Poland. (A. Giordano, Univ. of Milan, Milan, Italy)

1-3. **Canadian Soc. of Plant Physiol-**

ogists, Canadian Botanical Soc., Canadian Phytopathological Soc., joint mtg., Univ. of British Columbia, Vancouver. (J. A. Webb, Dept. of Biology, Carleton Univ., Ottawa, Ont.)

1-3. **Canadian Psychological Assoc.**, annual mtg., Montreal, P.Q. (G. A. Gergusson, Dept. of Psychology, McGill Univ., Montreal)

1-3. **American Soc. for Quality Control**, 20th annual technical conf., New York, N.Y. (E. J. Lancaster, General Precision, Inc., 150 Totowa Rd., Wayne, N.J. 07470)

1-4. **Acoustical Soc. of America**, 68th spring mtg., Boston, Mass. (The Society, 335 E. 45 St., New York 10017)

1-5. **Problems and Methods of Mathematical Physics**, conf., Karl-Marx-Stadt, East Germany. (Inst. für Mathematik und Angewante Mechanik, Technische Hochschule Karl-Marx-Stadt, Postfach 305, Karl-Marx-Stadt 1)

2-4. **American Soc. for Metals**, New England regional conf., Boston, Mass. (W. J. Hilty, The Society, Metals Park, Ohio 44073)

3-4. **Renal Failure and Replacement of Renal Function**, 3rd conf., Lyons, France. (W. Drukker, European Dialysis and Transplant Assoc., Queen Wilhelmina Hospital, 104 1st Helmersstr., Amsterdam-W, Netherlands)

3-9. **European Organization for Research on Fluorine and Dental Caries Prevention**, 13th congr., Perugia, Italy. (A. Seppilli, Casella postale no. 150, Perugia)

5-8. **International Planned Parenthood Federation**, conf., region for Europe, Near East, and Africa. Copenhagen, Denmark. (Mrs. F. Dennis, 64 Sloane St., London, S.W.1, England)

5-8. **Smoking and Health**, 1st intern. congr., New York, N.Y. (J. M. Muckell, Overseas Press Club, 54 W. 40 St., New York 10018)

5-11. **International Commission for the Northwest Atlantic Fisheries**, mtg., Spain. (L. R. Day, Bedford Inst. of Oceanography, P.O. Box 638, Dartmouth, N.S., Canada)

6-7. **Association for Applied Gnotobiotics**, annual mtg., Notre Dame Univ., Notre Dame, Ind. (B. S. Wostmann, Lobund Laboratory, Univ. of Notre Dame, Notre Dame)

6-8. **Chemical Inst. of Canada**, 49th annual conf., Univ. of Saskatchewan, Saskatoon. (The Institute, 48 Rideau St., Ottawa 2, Ontario)

6-8. **Chemistry, Biochemistry, and Pharmacology of Prostaglandins**, symp., Stockholm, Sweden. (B. Samuelsson, Dept. of Chemistry, Karolinska Inst., Stockholm 60)

6-8. **European Organization for Quality Control**, 10th conf., Stockholm, Sweden. (Secretariat, Weena 700, Rotterdam 3, Netherlands)

6-9. **Biomedical Engineering**, symp., San Diego, Calif. (F. George, U.S. Naval Hospital, San Diego)

6-9. **Energy Conversion by Photosynthetic Apparatus**, conf., Upton, N.Y. (J. M. Olson, Biology Dept., Brookhaven Natl. Laboratory, Upton, L.I., N.Y.)

6-10. **Electric Contact Phenomena**, 3rd intern. symp., Univ. of Maine, Orono. (R. E. Armington, Dept. of Electrical Engineering, Univ. of Maine, Orono 04473)

6-10. **Food Irradiation**, symp., Karls-

ruhe, Germany. (J. H. Kane, Div. of Technical Information, U.S. Atomic Energy Commission, Washington, D.C. 20545)

6-10. **Medical Library Assoc.**, annual mtg., Boston, Mass. (The Association, 919 N. Michigan Ave., Chicago, Ill.)

6-11. **Biota of the Amazon Basin**, symp., Belem, Brazil. (R. L. Dressler, Museo Nacional, Quinta de Boa Vista, Rio de Janeiro, GB, Brazil)

6-11. **Geodetic Calculations**, 2nd intern. symp., Brussels, Belgium. (P-L. Baetsle, 149, boul. Brand Whitlock, Brussels 4)

7-9. **Society of the Plastics Industry**, 13th natl. conf., New York, N.Y. (Public Relations Director, The Society, 250 Park Ave., New York 10017)

8-10. **Canadian Federation of Biological Socs.** (includes Canadian Physiological Soc., Pharmacological Soc. of Canada, Canadian Assoc. of Anatomists, Canadian Biochemical Soc.) 9th annual mtg., Univ. of British Columbia, Vancouver. (A. H. Neufeld, Faculty of Medicine, Univ. of Western Ontario, London, Ont.)

9. **Canadian Standards Assoc.**, 39th annual mtg., Vancouver, B.C. (General Manager, 235 Montreal Rd., Ottawa 7, Ont.)

9-11. **Applications of Physics to Medicine**, symp., Univ. of Wisconsin, Madison. (J. R. Cameron, Dept. of Radiology, Univ. of Wisconsin, Madison 53706)

9-11. **Biomedical Engineering**, conf., New York Acad. of Sciences, New York, N.Y. (S. N. Levine, Dept. of Engineering, State Univ. of New York, Stony Brook, L.I.)

9-12. **American Assoc. of Neuropathologists**, Washington, D.C. (I. Feigin, 550 First Ave., New York 10016)

10-12. **Society of Biological Psychiatry**, conv. and scientific mtg., Washington, D.C. (W. A. Himwich, Galesburg State Research Hospital, Galesburg, Ill. 61401)

12-15. **Canadian Ophthalmological Soc.**, 29th annual mtg., Jasper, Alta. (Secretary, 1849 Yonge St., Toronto 7, Ont.)

12-16. **American Soc. of Mammalogists**, annual mtg., California State College, Long Beach. (R. Hardy, Dept. of Biology, California State College, Long Beach)

12-16. **Iota Sigma Pi**, 15th mtg., Oregon State Univ., Corvallis. (G. Perlmann, Rockefeller Inst., New York, N.Y. 10021)

12-17. **Cellular Homeostasis and Its Control**, mtg., Cambridge, England. (Intern. Union of Biological Sciences, General Secretariat, Dept. of Zoology, Univ. of Washington, Seattle 98105)

12-18. **Ceramics**, intern. congr., Stockholm, Sweden. (Mrs. A. L. Laurell, Drottninggatan 20, IV, Stockholm C)

13-15. **Cryogenic Engineering**, conf., Boulder, Colo. (K. D. Timmerhaus, Engineering Research Center, Univ. of Colorado, Boulder)

13-15. **American Neurological Assoc.**, 91st annual mtg., Washington, D.C. (Executive Vice President, 710 W. 168 St., New York 10032)

13-16. **Allergology**, 8th Scandinavian congr., Oslo, Norway. (O. Strømme, Rikshospitalet, Oslo 1)

13-17. **Late Type Stars**, colloquium, Trieste, Italy. (M. H. Hack, Astronomical Observatory, Via Tiepolo 11, Trieste)

13-17. **Canadian Medical Assoc.**, 99th annual mtg., Edmonton, Alta. (The As-

sociation, 150 St. George St., Toronto, Ont.)

13-17. **Society for Applied Spectroscopy**, 5th natl. mtg., Chicago, Ill. (E. Lanterman, Borg-Warner Corp., Ingersoll Research Center, Wolf and Algonquin Rds., Des Plaines, Ill. 60018)

13-18. **American Assoc. for the Advancement of Science**, Pacific Div., Seattle, Washington. (R. C. Miller, California Acad. of Sciences, San Francisco)

13-18. **LSD and Related Drugs**, conf., Univ. of California, Berkeley. (Letters and Science Extension, Univ. of California, 2223 Fulton St., Berkeley 94720)

13-20. **American Soc. of Limnology and Oceanography**, Seattle, Wash. (H. Curl, Jr., Dept. of Oceanography, Oregon State Univ., Corvallis)

14-16. **Materials**, 3rd intern. symp., Berkeley, Calif. (J. A. Pask, Dept. of Mineral Technology, Univ. of California, Berkeley)

14-16. **Unpredictable Responses of Man to Drugs**, CBA Foundation symp., London, England. (W. Modell, 41 Portland Pl., London W.1)

14-17. **Applied Mechanics**, natl. congr., Univ. of Minnesota, Minneapolis. (R. Plunkett, 107 Aero Bldg., Univ. of Minnesota, Minneapolis 55455)

15-17. **Communications**, conf., Inst. of Electrical and Electronics Engineers, Philadelphia, Pa. (A. E. Joel, Room 2G-330, Bell Telephone Laboratories, Holmdel, N.J.)

15-22. **Science Seminar**, Air Force Office of Scientific Research, Albuquerque, N.M. (W. J. Price, Air Force Office of Scientific Research, Washington, D.C.)

15-24. **European Federation of Chemical Engineering**, 4th congr., London, England. (Inst. of Chemical Engineers, 16 Belgrave Sq., London S.W.1)

17-18. **American Rheumatism Assoc.**, Denver, Colo. (G. W. Speyer, 1212 Sixth Ave., New York 10036)

19-22. **Botanical Soc. of America**, Northeast sect. and **Torrey Botanical Club**, summer field mtg., Univ. of Tennessee, Knoxville. (R. K. Zuck, Dept. of Botany, Drew Univ., Madison, N.J.)

19-23. **American Nuclear Soc.**, 12th annual mtg., Denver, Colo. (Executive Secretary, 244 E. Ogden Ave., Hinsdale, Ill.)

19-24. **American Soc. of Medical Technologists**, Los Angeles, Calif. (R. Matthaei, Suite 25, Hermann Professional Bldg., Houston, Tex. 77025)

19-25. **Animal Nutrition**, 1st world congr., Madrid, Spain. (Intern. Veterinary Federation of Zootechnics, Calle Isabel la Católica 12, Madrid 13)

19-25. **Herpetologists' League**, Miami, Fla. (F. B. Turner, Laboratory of Nuclear Radiation and Biology, University of California, Los Angeles)

19-25. **American Soc. of Ichthyologists and Herpetologists**, annual mtg., Miami, Fla. (The Society, Div. of Reptiles, U.S. Natl. Museum, Washington, D.C. 20561)

20-22. **Astrophysics**, 14th intern. symp., Liège, Belgium. (P. Ledoux, Inst. d'Astrophysique, Cointe-Sclessin, Belgium)

20-22. **Colloid and Surface Chemistry** Div., American Chemical Soc., 40th natl. symp., Univ. of Wisconsin, Madison. (E. Hutchinson, Dept. of Chemistry, Stanford Univ., Palo Alto, Calif. 94300)

20-22. **American Dairy Science Assoc.**, Oregon State Univ., Corvallis. (E. O. Herreid, Station A. Box 250, Champaign, Ill.)

20-22. **American Malacological Union**, Pacific Div., conv., Univ. of Washington, Seattle. (Mrs. E. Marshall, 2237 NE 175 St., Seattle)

20-22. **Organic Scintillators**, symp., Argonne, Ill. (D. L. Horrocks, Chemistry Div., Argonne Natl. Laboratory, 9700 S. Cass Ave., Argonne 60440)

20-22. **American Physical Soc.**, Minneapolis, Minn. (R. G. Sachs, P.O. Box 344, Argonne, Ill.)

20-23. **American Soc. for Engineering Education**, 74th annual mtg., Washington State Univ., Pullman. (L. Winner, 152 W. 42 St., New York 10036)

20-24. **Air Pollution Control Assoc.**, 59th annual mtg., San Francisco, Calif. (A. H. Batchelder, California Research Corp., 200 Bush St., San Francisco 94120)

20-24. **Crystal Growth**, intern. conf., Boston, Mass. (Secretary, Crystal Growth Conference, 40 Acorn Park, Cambridge, Mass. 02140)

20-24. **Determination and Applications of Radial Velocities**, symp., Toronto, Ont., Canada. (R. M. Petrie, Dominion Astrophysical Observatory, R. R. 7, Victoria, B.C., Canada)

20-25. **International Federation of Automatic Control**, 3rd congr., London, England. (G. Weiss, Dept. of Electrical Engineering, Polytechnic Inst. of Brooklyn, 333 Jay St., Brooklyn, N.Y. 11201)

21-22. **High Lysine Corn**, conf., Purdue Univ., Lafayette, Ind. (Div. of Conferences and Continuation Services, Purdue Univ., West Lafayette, Ind. 47907)

21-23. **Precision Electromagnetic Measurements**, 5th biennial conf., Boulder, Colo. (J. Cronland, Bureau of Continuation Education, 328 University Memorial Center, Univ. of Colorado, Boulder 80304)

22-24. **Calorimetry**, 21st conf., Boulder, Colo. (O. J. Kleppa, Inst. for the Study of Metals, Univ. of Chicago, Chicago, Ill. 60637)

22-24. **Heat Transfer and Fluid Mechanics**, inst., Univ. of Santa Clara, Santa Clara, Calif. (J. A. Miller, Dept. of Aeronautics, U.S. Naval Postgraduate School, Monterey, Calif.)

22-24. **Germinal Centers of Lymphatic Tissue**, conf., Berne, Switzerland. (H. Cottier, Inst. of Pathology, Freiburgstr. 30, 3008 Berne)

22-24. **Quantum Optics**, 2nd conf., Univ. of Rochester, Rochester, N.Y. (R. H. Picard, Optical Physics Laboratory, Air Force Cambridge Research Laboratories, Hanscom Field, Bedford, Mass.)

22-24. **Wood Chemistry**, 2nd Canadian symp., Ste. Marguerite, P.Q. (Chemical Inst. of Canada, 48 Rideau St., Ottawa 2)

22-25. **Endocrine Soc.**, 48th annual mtg., Chicago, Ill. (The Society, 1200 N. Walker, Oklahoma City, Okla.)

23-25. **Carotinoids Other than Vitamin A**, conf., Trondheim, Norway. (N. A. Sorensen, Norwegian Inst. of Technology, Trondheim)

23-25. **Nuclear Energy**, 11th intern. congr., Rome, Italy. (Secretariat, Comitato Nazionale per l'Energia Nucleare, Via Belisario, 15, Rome)

23-25. **National Soc. of Nuclear Medi-**

cine, 13th annual mtg., Philadelphia, Pa. (The Society, 333 N. Michigan Ave., Chicago, Ill. 60601)

23-25. **Obstetrics and Gynecology**, 14th Scandinavian congr., Oslo, Norway. (K. Björo, University Clinic of Obstetrics and Gynecology, Oslo)

23-26. **Nutritional and Metabolic Maladies**, European congr., Vittel, France. (F. Dumez, Soc. Général des Eaux Minérales de Vittel, 44, avenue George V, Paris 8, France)

23-25. **Biomedical Engineering**, symp., Milwaukee, Wis. (H. S. Geer, 617 N. 13 St., Milwaukee 53233)

24-25. **Naturally Occurring Sulphur Compounds**, conf., Copenhagen, Denmark. (A. Kjaer, Royal Veterinary and Agricultural College, Copenhagen V)

25-26. **Drug Information Assoc.**, annual mtg., Chicago, Ill. (E. Conrad, American Medical Assoc., Chicago)

25-2. **Microcirculation**, 4th European conf., Cambridge, England. (P. A. G. Monro, Anatomy School, Univ. of Cambridge, Downing St., Cambridge)

26-28. **Society for Investigative Dermatology**, Chicago, Ill. (G. W. Hambrick, Jr., 3400 Spruce St., Philadelphia, Pa. 19104)

26-29. **American Soc. of Agricultural Engineers**, annual mtg., Univ. of Massachusetts, Amherst. (J. L. Butt, P.O. Box 229, St. Joseph, Mich.)

26-29. **European Soc. of Cardiovascular Surgery**, 15th intern. congr., Amsterdam, Netherlands. (Holland Organizing Centre, 16, Lange Voorhout, The Hague)

26-30. **American Medical Assoc.**, 99th annual mtg., Chicago, Ill. (The Association, 535 N. Dearborn St., Chicago, Ill. 60601)

26-30. **American Veterinary Medical Assoc.**, 103rd annual mtg., Louisville, Ky. (The Association, 600 S. Michigan Ave., Chicago, Ill.)

26-1. **American Physical Therapy Assoc.**, Los Angeles, Calif. (L. Blair, 1790 Broadway, New York 10019)

26-1. **American Soc. for Testing and Materials**, 69th annual mtg., Atlantic City, N.J. (ASTM, 1916 Race St., Philadelphia, Pa.)

26-2. **Chemistry of Natural Products**, 4th intern. symp., Stockholm, Sweden. (G. Aulin-Erdtman, Drottning Kristinas Vag 53, Stockholm O)

26-2. **International Assoc. of Gerontology**, 7th intern. congr., Vienna, Austria. (Mrs. I. Andersons, Austrian Medical Academy, Alserstr. 4, Vienna 9)

26-2. **Radiation Research**, 3rd intern. congr., Cortina d'Ampezzo, Italy. (G. Silini, Casella Postale 2359, Rome, Italy)

26-3. **National Education Assoc.**, conv., Miami Beach, Fla. (W. G. Carr, NEA, 1201 16th St., NW, Washington, D.C.)

27-28. **Astronomical Soc. of the Pacific**, annual summer mtg., Seattle, Wash. (P. W. Hodge, Dept. of Astronomy, Univ. of Washington, Seattle 98105)

27-28. **Fluorine Chemistry**, symp., Ann Arbor, Mich. (R. W. Parry, Dept. of Chemistry, Univ. of Michigan, Ann Arbor 48104)

27-29. **Aerospace Sciences**, West Coast mtg., Los Angeles, Calif. (W. J. Brunke, American Inst. of Aeronautics and Astronautics, 1290 Sixth Ave., New York 10019)