

those in the female; yet the adult male does not respond behaviorally to estrogen administration. His preliminary data, however, suggest that, in contrast to the female, estrogen apparently does not pass into neuronal nuclei in the male.

Perinatal hormone administration also permanently alters behavior. In the monkey, although postnatal administration of androgen is without effect, prenatal androgen injection produces a female which displays characteristic male sexual behavior. In contrast to the androgenized female rat, the primates have normal ovulatory cycles although puberty is delayed. However, Goy (Wisconsin) indicated that in addition to the prenatal hormone environment, postnatal social factors also determine adult behavior in the primate. Gerall (Tulane) pointed out that age is another critical factor. He tested neonatally castrated male rats for lordosis behavior and reported that the younger the animals when first tested, the higher the initial lordosis scores. Lisk (Princeton) reported that maternal nest-building behavior in the mouse is dependent on perinatal androgen exposure. Estrogen-progesterone treatment can induce nest building in the female or neonatally castrated male, but not in the normal male or in the androgenized female mouse. Kimura (Komaba, Tokyo) reported that the neonatally estrogenized mouse is less responsive to male pheromones. Finally, Kawashima and Shinoda (Tokyo) presented data which indicate that the perinatal hormonal environment may alter maze learning and Skinner-box performance. Newborn male rats treated with high doses of estrogen performed less well in these experimental situations. Although in each of these experiments one must be careful to separate potential perinatal effects of gonadal hormones directly on the brain, and indirect effects produced by a modification of adult gonadal function, these studies do suggest that the modification in brain function produced by the perinatal hormonal environment may be very extensive.

The responses of target organs (vagina, mammary gland, and prostate) to neonatal treatment received some detailed consideration. Here, as at other levels of hormone intervention, the existence of a critical period for severe hormonal effects to be visualized was evident, especially in the precise analysis by Takasugi (Okayama) of the histogenesis of estrogen-independent vaginal cornification after neonatal estrogen

treatment of mice. A specific cell type, present only for the first few days after birth, gives rise to the cells that eventually show irreversible cornification under the influence of neonatal estrogen treatment. If adequate estrogen is not provided during the first days after birth, these special cells disappear, and the irreversible cornification cannot later be induced. The induction of irreversible cornification (estrogen independent) in the mouse vagina is accompanied by a great reduction in nuclear receptor sites for estradiol (Shyamala, Mori, and Bern, Berkeley). Comparable analyses are needed to elucidate the histogenesis of the metaplastic prostatic lesions (Arai) after neonatal estrogen treatment of rats and mice, and also in studies of mammary responses (Mori and Bern). The thesis that neonatal exposure to steroid hormones affects the nature of the response of adult organs to the same hormones was exemplified by Kincl's (Brookdale Hospital, Brooklyn) studies on steroidogenesis in the male rat and by Lisk's evaluations of uterine sensitivity in the female rat.

Most of the published studies dealing with the phenomena discussed at this seminar have been concerned with the steroids, both with their effects and with influences upon their secretion. However, new emphasis on the importance of the thyroid, of the thymus, and of prolactin was forthcoming. Kikuyama (Waseda) reported that hypothyroidal states during the perinatal period retarded the attainment of sexual maturity in female rats, probably because of an underdeveloped pituitary gland. In view of the stimulatory effect of thyroxine on neuronal and glial maturation [Timiras (Berkeley) especially emphasized the influence on membranogenesis], hypothyroid rats may produce less hypothysiotropins in the hypothalamus. According to Ishikawa (Showa, Tokyo), functional differentiation of adeno-hypophysial cell types is dependent on these factors. These observations are relevant to understanding the physiopathology of cretinism in man. Nishizuka and Sakakura (Aichi Cancer Institute, Nagoya) emphasized that the neonatal presence of the thymus was necessary for the normal development of the ovaries. They suggested that neonatal thymectomy permanently affected the hypothalamo-adeno-hypophysial axis. Kincl discussed the protective effect of the thymus in altering the degree of responsiveness to neonatally administered steroids. Perinatal prolactin appears to synergize with estrogen with regard to

both vaginal responses and mammary development (Mori, Kohmoto, and Bern). It seems important that combinations of hormone excesses and deficiencies simulating possible pathological conditions in pregnancy be used in future experiments. In his concluding statement, Kohrman (Michigan State) emphasized the special interdependence of experimental and clinical investigations in this field.

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## Forthcoming Events

### August

12-15. American Soc. for **Horticultural Science**, Raleigh, N.C. (C. Blackwell, ASHS, P.O. Box 109, 914 Main St., St. Joseph, Mich. 49085)

12-17. Conference on **Making Service Industries More Productive through Computers and Automation**, Engineering Foundation, Henniker, N.H. (A. McAdams, Cornell Univ., Ithaca, N.Y. 14850)

12-17. **Mixing Research Conf.**, Engineering Foundation, South Berwick, Maine. (EF, 345 E. 47 St., New York 10017)

12-17. **Organometallic Chemistry**, 6th intern conf., Amherst, Mass. (M. D. Rausch, Univ. of Massachusetts, Amherst 01002)

12-17. International **Ornithological Congr.**, 16th, Canberra, Australia. (Secretary-General, IOC, P.O. Box 84, Lynham, A.C.T., Australia 2602)

12-18. **Mechanical, Electrical, and Allied Engineering Branches**, 5th Pan American Congr., Bogotá, Colombia. (E. T. B. Gross, Rensselaer Polytechnic Inst., Troy, N.Y. 12181)

13-14. Symposium on the **Economic Condition of the Texas Seafood Industry**, Center for Marine Resources, Texas A & M Univ., Corpus Christi (S. M. Gillespie, Dept. of Marketing, Texas A & M Univ., College Station 77843)

13-14. **Metric Assoc.**, Chicago, Ill. (R. W. Mattoon, Dept. 482, Abbott Labs., North Chicago 60064)

13-16. **Potato Assoc. of America**, Guelph, Ont., Canada. (H. J. Murphy, 114 Deering Hall, Univ. of Maine, Orono 04473)

13-16. Society for the **Study of Amphibians and Reptiles and the Herpetologists' League**, joint annual mtg., Tacoma, Wash. (W. R. Heyer, Biology Dept., Pacific Lutheran Univ., Tacoma 98447)

13-16. Society for the **Study of Reproduction**, 6th annual, Athens, Ga. (C. Cruse, 113 N. Neil St., Champaign, Ill. 61820)

13-17. Australian and New Zealand Assoc. for the **Advancement of Science**,

45th congr., Perth, Western Australia. (E. Underwood, 45th ANZAAS Congr., Univ. of Western Australia, Nedlands 6009)

13-17. **Physics and Chemistry of Fission**, 3rd, Intern. Atomic Energy Agency, Rochester, N.Y. (J. H. Kane, Office of Information Services, Atomic Energy Commission, Washington, D.C. 20545)

13-18. **Commemoration of the Founding of the Anderson School of Natural History on Penikese Island by Louis Agassiz**, 100th anniversary, Cape Cod, Mass. (D. J. Zinn, Dept. of Zoology, Univ. of Rhode Island, Kingston 02881)

13-18. **Mechanisms of Regulation of Plant Growth**, intern. plant physiology symp., Royal Soc. of New Zealand, Pal-

merston North. (G. W. Markham, RSNZ, 6 Halswell St., P.O. Box 12249, Wellington, N.Z.)

15-17. **Canadian High Polymer Forum**, 17th, St. Jean, P.Q., Canada. (E. G. Lovering, Pharmaceutical Chemistry Div., Health Protection Branch, Tunney's Pasture, Ottawa, Ont., K1A 0L2, Canada)

15-18. **National Council of Teachers of Mathematics**, Fargo, N.D. (NCTM, 1201 16th St., NW, Washington, D.C. 20036)

16-30. **Cosmic Ray Conf.**, 13th intern., Denver, Colo. (R. L. Chasson, Dept. of Physics, Univ. of Denver, Denver 80210)

19-21. **Symmetry, Similarity and Group-Theoretic Methods in Mechanics**, conf., American Acad. of Mechanics, Calgary,

Alberta, Canada. (P. G. Glockner, Dept. of Civil Engineering, Univ. of Calgary, Calgary T2N 1N4)

19-22. **American Soc. for Horticultural Science**, Raleigh, N.C. (C. Blackwell, ASHS, P.O. Box 109, St. Joseph, Mich. 49085)

19-23. **American Soc. for Pharmacology and Experimental Therapeutics**, East Lansing, Mich. (E. B. Cook, ASPET, 9650 Rockville Pike, Bethesda, Md. 20014)

19-23. **Role of the Cell Surface and Cell Interactions in Development and Differentiation**, 7th intern. congr., Intern. Soc. of Developmental Biologists, Montreal, Canada. (B. Messier, ISDB, Dept. of Anatomy, Université de Montreal, P.O. Box 6128, Montreal 101)

19-24. **Career Guidance for Women Entering Engineering**, Conf., Engineering Foundation, Henniker, N.H. (N. Fitzroy, General Electric Co., Schenectady, N.Y.)

19-24. **Conference on Energy Conservation at Point of Use**, Engineering Foundation, Henniker, N.H. (J. Denton, Univ. of Pennsylvania, Philadelphia, Pa. 19104)

19-24. **Society for Industrial Microbiology**, Evanston, Ill. (W. M. Stark, Lilly Research Labs., Eli Lilly & Co., Indianapolis, Ind. 46206)

19-24. **International Symp. on Microchemical Techniques**, sponsored by American Microchemical Soc., Intern. Union of Pure and Applied Chemistry, Commission on Microchemical Techniques, and Div. of Analytical Chemistry, University Park, Pa. (H. J. Francis, Jr., Pennwalt Corp., 900 First Ave., King of Prussia, Pa. 19406)

19-24. **American Physiological Soc.**, Rochester, N.Y. (O. E. Reynolds, APS, 9650 Rockville Pike, Bethesda, Md. 20014)

19-29. **International Assoc. of Agricultural Economists**, 15th intern. congr., São Paulo, Brazil. (V. J. Pellegrini, Rua Xavier Silveria H 57, Apr 102, Copacabana, Rio de Janeiro, Brazil)

20-21. **Spectroscopy**, 15th, Soc. for Applied Spectroscopy, Denver, Colo. (R. H. Heidel, U.S. Geological Survey, Bldg. 25, Denver Federal Center, Denver 80225)

20-23. **American Health Congr.**, jointly by American Hospital Assoc., Catholic Hospital Assoc., American Nursing Home Assoc., and Health Industries Assoc., Chicago, Ill. (L. Mays, AHC, 840 N. Lake Shore Dr., Chicago 60611)

20-24. **Texturization Theory, Determination and Control of Physical Properties of Food Materials**, Amherst, Mass. (C. Rha, Agricultural Engineering Bldg., Univ. of Massachusetts, Amherst 01002)

20-26. **Leprosy Congr.**, 10th intern., Bergen, Norway. (S. G. Browne, 16 Bridgefield Rd., Sutton, Surrey, England)

20-29. **Genetics**, 13th intern. congr., Berkeley, Calif. (S. W. Brown, Dept. of Genetics, 345 Mulford Hall, Univ. of California, Berkeley 94720)

21-22. **Society of Logistics Engineers**, Hunt Valley, Md. (R. R. Harvey, SOLE, P.O. Box 164, Hunt Valley)

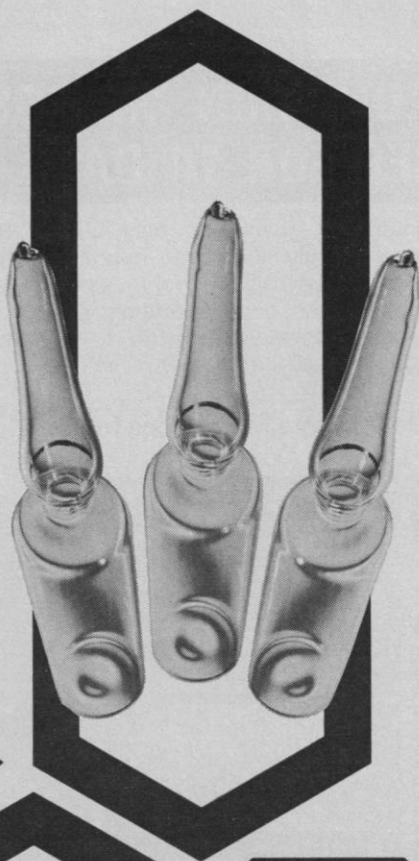
21-24. **International Chemistry Teachers Conf.**, Chemical Education Divs. of the Chemical Inst. of Canada and the American Chemical Soc., Waterloo, Ont. (L. H. Sibley, St. Catharines Collegiate Inst. and Vocational School, 34 Catherine St., St. Catharines, Ontario, Canada)

21-24. **Symposium on Zirconium in**

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**Nuclear Applications**, American Soc. for Testing and Materials and American Inst. of Mining, Metallurgical and Petroleum Engineers, Portland, Ore. (Meetings Officer, ASTM, 1916 Race St., Philadelphia, Pa. 19103)

21-25. International Soc. for the Study of Behavioral Development, 2nd biennial mtg., Ann Arbor, Mich. (T. Yarian, Center for Human Growth and Development, 1111 E. Catherine, Univ. of Michigan, Ann Arbor 48104)

22-24. Applications of X-ray Analysis, 22nd annual conf., Denver, Colo. (C. O. Rudd, Metallurgy and Materials Science Div., Denver Research Inst., Univ. of Denver, Denver 80210)

22-25. National Council of Teachers of Mathematics, Fort Worth, Texas. (NCTM, 1201 16th St., NW, Washington, D.C. 20036)

25-26. Mathematical Psychologists, 6th annual, Montreal, Canada. (A. A. J. Marley, Dept. of Psychology, P.O. Box 6070, Montreal 101, P.Q.)

25-28. American Astronomical Soc., Columbus, Ohio. (H. M. Gurin, AAS, 211 FitzRandolph Rd., Princeton, N.J. 08540)

26-29. American Soc. of Association Executives, New Orleans, La. (R. W. Taylor, ASAE, 1101 16th St., NW, Washington, D.C. 20036)

26-31. American Chemical Soc., 166th natl. mtg., Chicago, Ill. (Meetings Manager, ACS, 1155 16th St., NW, Washington, D.C. 20036)

26-31. International Soc. of Neurochemistry, 4th intern., Tokyo, Japan. (Y. Tsukada, Dept. of Psychology, School of Medicine, Keio Univ., Shinjuku, Tokyo)

27-29. Comparative Virology, 2nd intern. conf., Mont Gabriel, P.Q., Canada. (E. Kurstak, Univ. of Montreal, P.O. Box 6128, Montreal 101, P.Q., Canada)

27-30. American Sociological Assoc., New York, N.Y. (N. J. Demerath, ASA, 1001 Connecticut Ave., NW, Washington, D.C. 20036)

27-30. International Congr. on Suicide Prevention, 7th, Amsterdam, Netherlands. (H. J. van der Leek, Free Univ., Postbox 7161, Amsterdam)

27-31. NATO Conf. on Cybernetic Modeling of Adaptive Organizations, Porto, Portugal. (D. Howland, College of Administrative Science, Ohio State Univ., 1775 S. College Rd., Columbus 43210)

27-31. American Psychological Assoc., 81st annual, Montreal, P.Q., Canada. (J. Warren, APA, 1200 17th St., NW, Washington, D.C. 20036)

27-1. Leucocyte Culture Conf., 8th, Uppsala, Sweden. (K. Lindahl-Kiessling, Inst. for Medical Genetics, Univ. of Uppsala, V. Agatan 24, S-752-20 Uppsala)

28-30. Association for Computing Machinery, Atlanta, Ga. (G. Smith, ACM, 1133 Ave. of the Americas, New York 10036)

28-30. International Conf. on Radiation and Remote Probing of the Atmosphere, Univ. of California, Los Angeles. (J. G. Kuriyan, Dept. of Meteorology, Univ. of California, Los Angeles 90024)

28-31. International Colloquium on Empirical Aesthetics, 5th, Leuven, Belgium. (G. Smets, Psychologisch Instituut, Tienestraat 100, 3000 Leuven)

28-31. International Assoc. of Human

Biologists and Soc. for the Study of Human Biology, Detroit, Mich. (E. B. Watts, Dept. of Anthropology, Tulane Univ., New Orleans, La. 70018)

29-31. Conference and Workshop on Primate Karyology, Wayne State Univ., Detroit, Mich. (A. L. Koen, Mott Center, 275 E. Hancock, Detroit 48201)

**September**

1-3. International University of the World, Rome, Italy. (J. J. Lynch, IUW, 16 Westview Rd., Spring Valley, N.Y. 10977)

1-7. Electroencephalography and Clinical Neurophysiology, 8th intern. congr., Marseille, France. (G.-C. Lairy, Laboratoire d'EEG, Hôpital Henri Rousselle, 1, rue Cabanis, Paris 14° France)

2-6. Victimology, intern. symp., World Psychiatric Assoc., Jerusalem, Israel. (I. Drapkin, Organizing Committee of Criminology, Faculty of Law, Hebrew Univ. of Jerusalem, P.O. Box 4051, Jerusalem)

2-7. Bacteriology, intern. congr., American Soc. for Microbiology, Jerusalem, Israel. (A. F. Langlykke, ASM, 1913 I St., NW, Washington, D.C. 20006)

2-7. International Congr. on Mercury, sponsored by the Inst. Tecnológico Metalurgico Emilio Jimeno—Univ. of Barcelona, and the Consejo de Administración de las Minas de Almadén y Arrayanes, Barcelona, Spain. [Secretaría del Congreso, Facultad de Ciencias (Pedralbes), Univ. of Barcelona, Barcelona-14]

2-8. Birth Defects, 4th intern. conf., National Foundation—March of Dimes, Vienna, Austria. (Intern. Medical Congr., Ltd., c/o National Foundation, 1275 Mamaroneck Ave., White Plains, N.Y. 10605)

2-10. Society of Protozoologists, Clermont-Ferrand, France. (D. M. Hammond, Dept. of Zoology, Utah State Univ., Logan 84321)

2-14. Tropical Medicine and Malaria, 9th intern. congr., Athens, Greece. (E. M. H. Mofidi, School of Public Health, Univ. of Tehran, Tehran, Iran)

3-6. Chemical Thermodynamics, 3rd intern. conf., Intern. Union of Pure and Applied Chemistry, Baden, Vienna, Austria. (F. Kohler, Inst. of Physical Chemistry, Univ. of Vienna, Währingerstr. 42, A-1090 Vienna)

3-6. Stress Analysis Group, annual conf., Inst. of Physics, Bath, England. (Meetings Officer, IP, 47 Belgrave Sq., London, SW1X 8QX, England)

3-7. Symposium on Isotopes and Radiation Techniques in Studies of Soil Physics, Irrigation and Drainage in Relation to Crop Production, Intern. Atomic Energy Agency, Nicosia, Cyprus. (J. H. Kane, Office of Information Services, U.S. Atomic Energy Commission, Washington, D.C. 20545)

3-7. Molecular Sieves, 3rd intern. conf., Eidgenössische Technische Hochschule and the Swiss Chemical Soc., Zurich, Switzerland. (W. M. Meier, Inst. für Kristallographie der ETH, Sonneggstr. 5. 8006 Zurich)

3-7. Pharmaceutical Sciences, 33rd intern. congr., Stockholm, Sweden. (FIP-Congr. 1973, Box 1142, S-111 81 Stockholm)

3-7. International Union of Pure and Applied Chemistry, 24th intern. congr.,

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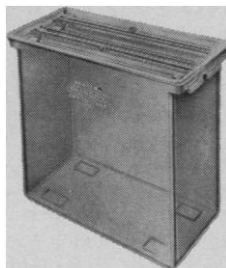
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Hamburg, Germany. (Secretariat, 7 Via Cornelio Celso, 00161 Rome, Italy)

3-9. Symposium on **Photoelastic Effects and Its Applications**, Intern. Union of Theoretical and Applied Mechanics, Brussels, Belgium. (J. Kestens, Laboratoire d'Analyse des Contraintes, Université Libre de Bruxelles 87, Avenue Ad. Buyl, Brussels 5)

4-8. American **Political Science Assoc.**, New Orleans, La. (E. M. Kirkpatrick, APSA, 1527 New Hampshire Ave., NW, Washington, D.C. 20036)

4-12. International Assoc. for the **Scientific Study of Mental Deficiency**, 3rd congr., The Hague, Netherlands. (M. I. I. Goldberg, Box 83, Teachers College, Columbia Univ., New York 10027)

4-14. International **Radiation Protection Assoc.**, 3rd intern. congr., Washington, D.C. (R. J. Catlin, U.S. Atomic Energy Commission, Washington, D.C. 20545)

4-14. International Organization for **Standardization**, 9th triennial mtg., American Natl. Standards Inst., Inc., Washington, D.C. (D. Maskevich, ANSI, 1430 Broadway, New York 10018)

5-7. **Nuclear Structure: Heavy Ions Conf.**, Inst. of Physics, Manchester, England. (Meetings Officer, IP, 47 Belgrave Sq., London, SW1X 8QX, England)

5-8. Society of **General Physiologists**, Woods Hole, Mass. (C. Edwards, Dept. of Biological Sciences, State Univ. of New York, Albany 12222)

5-8. International Conf. on **Magnetic Structures in Superconductors**, American Physical Soc., Argonne Natl. Lab., Intern. Inst. of Refrigeration, Intern. Union of Pure and Applied Physics, and Natl. Science Foundation, Argonne, Ill. (R. P. Huebener, Solid State Science Div., Argonne Natl. Lab., Argonne 60439)

5-12. American **Phytopathological Soc.**, 65th mtg., Minneapolis, Minn. (R. J. Green, Jr., Dept. of Botany and Plant Pathology, Purdue Univ., Lafayette, Ind. 47907)

5-12. **Plant Pathology**, 2nd intern. congr., Intern. Soc. for Plant Pathology, Minneapolis, Minn. (J. E. Mitchell, Dept. of Plant Pathology, Univ. of Wisconsin, Madison 53706)

6-8. **Parapsychological Assoc.**, 16th mtg., Charlottesville, Va. (R. L. Morris, Psychical Research Foundation, Duke Station, Durham, N.C. 27706)

6-8. **Pittsburgh Diffraction Soc.**, 31st annual, Pittsburgh, Pa. (R. J. Kadlec, Dept. of Biochemistry, Univ. of Pittsburgh, Pittsburgh 15213)

6-10. **Plasma Chemistry Symp.**, Intern. Union of Pure and Applied Chemistry, Kiel, Germany. (J. R. Hollahan, NASA-Ames Research Center, M/S 239-4 Moffett Field, Calif. 94035)

7-9. **More Learning: Less Teaching Conf.**, Inst. of Physics, Guildford, England. (Meetings Officer, IP, 47 Belgrave Sq., London, SW1X 8QX, England)

8-11. American **Fisheries Soc.**, Orlando, Fla. (R. A. Wade, AFS, 1319 18th St., NW, Washington, D.C. 20036)

8-15. **Chemotherapy**, 8th intern. congr., Athens, Greece. (P. Kontomichalou, P.O. Box 1554, Athens)

8-15. **Neurology**, 10th intern. congr., Barcelona, Spain. (J. M. Espadaler, Consejo de Ciento, 318, Barcelona-7)

9-12. American **Ceramic Soc.** (Elec-



tronics Div.), Atlanta, Ga. (F. P. Reid, ACS, 4055 North High St., Columbus, Ohio 43214)

9-13. **Marine Plankton and Sediments**, 3rd planktonic conf., Intern. Council of Scientific Unions, Scientific Committee on Oceanic Research, Working Group 37, Kiel, Germany. (E. Seibold, Geologisches Institut der Universität, Olshausenstr. 40/60, 23 Kiel)

9-13. **International Assoc. on Water Pollution Research**, 7th, Paris, France. (B. B. Berger, Room 211, Graduate Research Center, Water Resources Research Center, Univ. of Massachusetts, Amherst 01002)

9-14. **International Radiation Protection Assoc.**, 3rd intern. congr., Washington, D.C. (R. J. Catlin, U.S. Atomic Energy Commission, Washington, D.C. 20545)

9-21. **International Assoc. of Geomagnetism and Aeronomy**, Kyoto, Japan. (Prof. Rikitake, Earthquake Research Inst., Univ. of Tokyo, 2-11-16, Yayoi, Bunkyo-ku, Tokyo, Japan)

10-11. **Turbulence in Liquids**, 3rd symp., Univ. of Missouri-Rolla, Rolla. (J. L. Zakin, Dept. of Chemical Engineering, Univ. of Missouri-Rolla, Rolla 65401)

10-12. **Exploration of the Planetary System**, Copernicus conf., Intern. Astronomical Union, Torun, Poland. (P. Swings, Inst. of Astrophysics, Univ. of Liège, Leon Sougnet Ave., 23, B-4050, Esneux, Belgium)

10-12. **Irradiation Experimentation in Fast Reactors**, American Nuclear Soc., Jackson Hole, Wyo. (J. G. Crocker, 2309 Arctic Ave., Idaho Falls, Idaho 83401)

10-12. **Marine Technology Soc.**, 9th annual conf., Washington, D.C. (R. W. Niblock, MTS, 1730 M St., NW, Washington, D.C. 20036)

10-13. **European Conf. on Pediatric Nephrology**, Strbske Pleso, Czechoslovakia. (F. Demant, Clinic of Pediatrics of the Faculty Hospital, Kosice, Czechoslovakia)

10-14. **International Symp. on Macromolecules**, Intern. Union of Pure and Applied Chemistry, Aberdeen, England. (J. R. Keene, Chemical Soc., Burlington House, Piccadilly, London, England)

10-14. **Mass Spectrometry Conf.**, 6th intern. conf., Intern. Union of Pure and Applied Chemistry, Edinburgh, Scotland. (C. H. Maynard, Inst. of Petroleum, 61 New Cavendish St., London, W1M 8AR, England)

10-14. **Symposium on Radioimmunoassay and Related Procedures in Clinical Medicine and Research**, Intern. Atomic Energy Agency, Istanbul, Turkey. (E. J. Garcia, IAEA, Karntner Ring 11-13, A-1010 Vienna, Austria)

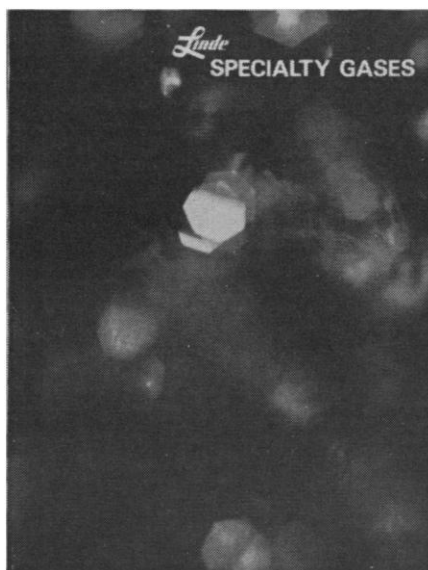
10-15. **International Assoc. for Cybernetics**, 7th, Namur, Belgium. (J. Lemaire, Place Andre Ryckmans, Palais des Expositions, B-5000, Namur)

12-14. **American Ceramic Soc.** (Electronics Div.), Atlanta, Ga. (F. P. Reid, ACS, 4055 North High St., Columbus, Ohio 43214)

12-14. **Physics of Semimetals and Narrow-Gap Semiconductors**, Univ. of Wales and Inst. of Science and Technology, Cardiff, Wales. (J. E. Aubrey, Dept. of Applied Physics, UW and IST, King Edward VII Ave., Cardiff CF1 3NU)

12-17. **American Medical Writers Assoc.**,

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Bethesda, Md. (E. Stahl, Ayerst Labs., Montreal, P.Q., Canada)

13-14. Society for Management Information Systems, 5th annual conf., Chicago, Ill. (A. Suter, SMIS, 221 North La Salle St., Chicago 60601)

13-15. International Congr. on the Knee Joint, 75th, Dutch Orthopaedic Assoc., Rotterdam, Netherlands. (Secretariat, Holland Organizing Centre, 16 Lange Voorhout, The Hague, Netherlands)

14-15. West Coast Cancer Foundation, 9th symp., San Francisco, Calif. (J. M. Vaeth, WCCF, Suite 615, 2155 Webster St., San Francisco 94115)

16-20. American Oil Chemists Soc., Chicago, Ill. (J. Lyon, AOCS, 508 S. Sixth St., Champaign, Ill. 61820)

16-20. American Acad. of Ophthalmology and Otolaryngology, Dallas, Texas. (C. M. Kos, 15 Second St., SW, Rochester, Minn. 55901)

23-26. National Forum on Growth with Environmental Quality, jointly by the Natl. Science Foundation, Metropolitan Tulsa Chamber of Commerce, and the Midcontinent Environmental Center Assoc., Tulsa, Okla. (B. Carnett, Metropolitan Tulsa Chamber of Commerce, Tulsa 74119)

24-28. Noble Gases Symp., jointly by U.S. Environmental Protection Agency, Natl. Environmental Research Center, and Univ. of Nevada, Las Vegas. (D. S. Barth, NERC, P.O. Box 15027, Las Vegas 89114)

### October

1-3. Hanford Biology Symp., 13th, sponsored by U.S. Atomic Energy Commission and Battelle Memorial Inst., Richland, Wash. (J. A. Harrison, Biology Dept., Battelle Pacific Northwest Labs., Richland 99352)

1-3. International Conf. on Land for Waste Management, Canadian Soc. of Soil Science, Ottawa, Ont. (M. K. Ward, Natl. Research Council, Ottawa, Ont. K1A 0R6)

1-4. American Acad. of Family Physicians, Denver, Colo. (R. Tusken, AAFP, Volker Blvd. at Brookside, Kansas City, Mo. 64112)

1-4. American Soc. for Metals, Chicago, Ill. (A. R. Putnam, ASM, Metals Park, Ohio 44073)

1-5. American Assoc. for Laboratory Animal Science, 24th annual, Miami Beach, Fla. (Joseph J. Garvey, AALAS, 2317 W. Jefferson St., Joliet, Ill. 60435)

1-5. Symposium on Remote Sensing in Oceanography, American Soc. of Photogrammetry, Orlando (Disney World), Fla. (J. S. Beazley, 330 Ponce St., Tallahassee 32303)

1-6. International Congr. of Rheumatology, 13th, Kyoto, Japan. (S. Sasaki, Japan Rheumatism Assoc., Shimbunkaikan 63, 3-8-4 Ginza, Chuo-ku, Tokyo, Japan)

3-5. Clinical Orthopedic Soc., Cleveland, Ohio. (M. L. Clayton, COS, 2045 Franklin St., Denver 80205)

4-6. Refractories Div., American Ceramic Soc., Bedford, Pa. (F. P. Reid, ACS, 4055 N. High St., Columbus, Ohio 43214)

4-10. Chemistry of Sea/Air Particulate Exchange Processes, intern. symp., Intern. Assoc. for the Physical Sciences of the

Ocean, Intern. Union of Geodesy and Geophysics, Nice, France. (R. A. Duce, Dept. of Oceanography, Univ. of Rhode Island, Kingston 02881)

5-6. Southeastern Cancer Research Assoc., Atlanta, Ga. (W. E. Criss, Dept. of Obstetrics and Gynecology, Univ. of Florida College of Medicine, Gainesville 32601)

5-6. Psychopharmacology Symp., World Psychiatric Assoc., Wroclaw, Poland. (A. Bukowczyk, Kraszewskiego 25, Wroclaw)

5-9. Sigma XI, Fontana, Wis. (T. T. Holme, SX, 345 Whitney Ave., New Haven, Conn. 06510)

6-12. American Concrete Inst., Ottawa, Ont., Canada. (ACI, Box 4754, Redford Stat., 22400 W. Seven Mile Rd., Detroit, Mich. 48219)

6-13. World Federation for Mental Health, 25th congr., Sydney, Australia. (A. Stoller, Mental Health Authority, 300 Queen St., Melbourne C1, Australia)

7-11. Clay Minerals Soc. (10th mtg.) and Clay Minerals Conf. (22nd), Banff, Alta., Canada. (J. E. Gillott, Dept. of Civil Engineering, Univ. of Calgary, Calgary 44, Alberta)

7-11. International Iron and Steel Inst., 7th annual conf., Johannesburg, South Africa. (IISI, 5 Place du Champ de Mars, 1050 Brussels, Belgium)

7-11. Life Assurance Medicine, 11th intern. congr., Mexico City, Mexico. (J. Rendon, Edificio Bancomer, Aptdo Postal M-7817, Mexico, D.F.)

7-12. Electrochemical Soc., 144th natl., Boston, Mass. (E. G. Enck, ES, P.O. Box 2071, Princeton, N.J. 08540)

7-13. Neurological Surgery, 8th intern. congr., Tokyo, Japan. (S. Ishii, Dept. of Neurosurgery, Juntendo Univ. Hospital, Hongo, Bunkyo-ku, Tokyo)

7-20. Institute on Terrestrial and Extraterrestrial Volcanology, Italian Natl. Research, Regional Sicilian Government, and the Italian Ministry of Public Education, Erice, Trapani, Sicily. (F. Cuttitta, U.S. Geological Survey, Geologic Div., Washington, D.C. 20244), or (M. Carapezza, Istituto di Mineralogia, Via Archirafi 36, 90123 Palermo, Italy)

8-10. National Electronics Conf. and Exhibition, 29th, Chicago, Ill. (NEC, Inc., Oakbrook Executive Pl. No. 2, 1211 W. 22 St., Oak Brook, Ill. 60521)

8-10. Society for Industrial and Applied Mathematics, Iowa City, Iowa. (J. K. Cullum, IBM-T. J. Watson Research Center, Yorktown Heights, N.Y. 10598)

8-12. International Drivers' Behaviour Research Assoc., Zurich, Switzerland. (T. E. A. Benjamin, Room 9C27, 10, quai Paul Doumer, F-92 Courbevoie, France)

8-12. Symposium on Experience from Operating and Fueling of Nuclear Power Plants, Intern. Atomic Energy Agency, Vienna, Austria. (J. H. Kane, Office of Information Services, U.S. Atomic Energy Commission, Washington, D.C. 20545)

9-12. Association of Official Analytical Chemists, 87th, Washington, D.C. (L. G. Ensminger, AOAC, Box 540, Benjamin Franklin Sta., Washington, D.C. 20044)

9-12. Optical Soc. of America, 58th annual, Rochester, N.Y. (J. W. Quinn, OSA, 2100 Pennsylvania Ave., NW, Washington, D.C. 20037)