

and skeptical comments which Szilard would certainly have brought to the meetings were sadly missed by the members of the symposium.

P. L. KROHN

*University of Birmingham,
Birmingham, England*

Solvay Conference

The first Solvay conference took place in 1911 in Belgium, and was organized by Ernest Solvay, a Belgian industrialist and philanthropist. The purpose of the first, and succeeding conferences, was to discuss a new scientific theory or development. Attendance is always limited to invited guests plus a small number of scientists at the Université Libre de Bruxelles.

The thirteenth Solvay Conference of Chemistry took place in Brussels during the week of 24 October 1965. The subject of the conference was the reactivity of excited organic molecules. Nine invited papers were presented; the last day was devoted entirely to discussion. Somewhat more than 50 scientists attended this conference.

C. A. Coulson (Oxford, England) discussed the present state of theoretical knowledge of the excited electronic states of molecules. The present model of molecular electronic configuration is that of single molecular orbitals computed, in the most favorable cases, by a Hartree Fock method. Those excited states, well represented by excitation of a single electron from one of the orbitals which are filled in the ground configuration, lend themselves to certain qualitative predictions concerning their nature. For instance, one can frequently predict that their lowest potential configurations will be with certain bonds between constituent atoms either lengthened or shortened, and either weakened or strengthened. Quantitative statements of the extent of these effects are in the distant future, if ever. For certain excited states which consist of a resonance mixture of various single electronic excitations even qualitative predictions are now impractical.

R. Daudel (Paris) reported on the predicted nature of the lowest excited electronic state of various conjugated aromatic molecules. Daudel has made progress in predicting the location of reaction in photoexcited aromatic molecules.

G. Porter (Sheffield, England) discussed theoretical and experimental work on photochemical reactions of aromatic molecules. The usual sequence of events is that first discussed by G. N. Lewis: photoexcitation to an excited singlet state, followed by radiationless conversion to the lower-lying metastable triplet, which may either react, phosphoresce, or be deactivated by a radiationless transition. The primary-excited singlet, in some cases at least, appears to undergo quantitative conversion to the triplet. But even when such simplification exists the possible fates of the excited triplets makes exact interpretation of its reaction rate difficult. However, in individual cases by using a variety of techniques a complete mapping of the various processes has been achieved.

G. O. Schenk (Mulheim, Germany) and George Hammond (Cal Tech) presented papers on similar subjects but with some differences of interpretation. The lowest-excited (triplet), electronic state of ethylene has a minimum energy with a nuclear configuration in which the two CH_2 planes are at right angles, instead of parallel as they are in the ground state. Thus photoexcitation of substituted ethylenes results in transformation of cis to trans configurations and vice versa. The same reaction can be obtained by photoexcitation of an aromatic molecule in the same solution with the ethylenic compound, if the triplet aromatic excitation has equal or higher excitation energy than that of the ethylene derivative. The electronic excitation is then transferred from the aromatic molecule to the ethylene derivative. Many studies of these sensitized-transfer reactions have been made, especially in the laboratories of Hammond and of Schenk. The exact course of the details of some of these sensitized excitations is not completely clear, although my impression was that most of the ambiguity lay in the semantics.

Various photochemical reactions of relatively complicated organic molecular types were discussed by N. C. Yang (Chicago), W. C. Dauben (Berkeley), and E. Havinga (Leiden). The photochemistry of the solid state was reported on by C. M. J. Schmidt (Weizmann Institute, Israel).

To a physical chemist whose training in organic chemistry ceased almost 40 years ago, and whose contact with organic reaction kinetics has been only sporadic since then, the conference

was enormously impressive. The detail with which the course of most complicated and diverse reactions are understood is amazing. Many of these reactions involve electronic photoexcitation of one molecule followed successively by internal conversion to a triplet state, transfer of the electronic excitation (and the spin) to a second molecule, and reaction of this molecule involving very great readjustments of atomic configurations and with the participation of other reactants. In many cases, the details of the succession of steps and a fair quantitative understanding of the efficiencies are known.

The proceedings of the conference including the very lengthy and valuable discussion will be published in the near future.

JOSEPH E. MAYER

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La Jolla, California*

Forthcoming Events

April

24. Society for **Clinical Ecology**, 1st annual mtg., Chicago, Ill. (T. G. Randolph, Human Ecology Research Foundation, 720 N. Michigan Ave., Chicago 11, Ill.)

24-26. American Assoc. of **Colleges of Pharmacy**, Dallas, Tex. (C. W. Bliven, 1507 M St., NW, Washington, D.C. 20005)

24-27. American Soc. of **Abdominal Surgeons**, Chicago, Ill. (B. F. Alfano, 663 Main St., Melrose 76, Mass.)

24-27. American **Oil Chemists' Soc.**, Los Angeles, Calif. (C. H. Hauber, The Society, 35 E. Wacker Dr., Chicago, Ill. 60601)

24-28. **Infectious Pathology**, 4th intern. congr., Stuttgart, Germany. (G. Hoffman, Hugstetterstr. 55, 78 Friburg im Briesgau, Germany)

24-29. American College of **Allergists**, 22nd annual congr., Chicago, Ill. (J. D. Gillespie, 2141 14th St., Boulder, Colo. 80302)

24-29. American Soc. of **Hospital Pharmacists**, annual mtg., Dallas, Tex. (J. A. Oddis, 2215 Constitution Ave., NW, Washington, D.C. 20037)

24-29. American **Pharmaceutical Assoc.**, Dallas, Tex. (W. S. Apple, 2215 Constitution Ave., NW, Washington, D.C. 20037)

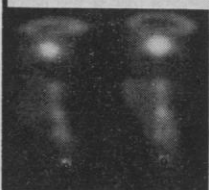
25-27. **Antidepressant Drugs**, symp., Milan, Italy. (S. Garattini, Inst. di Ricerche Farmacologiche "Mario Negri," Via Eritrea, 62, Milan)

25-27. **National Acad. of Sciences**, 103rd annual mtg., Washington, D.C. (Home Secretary, NAS, 2101 Constitution Ave., NW, Washington, D.C. 20418)

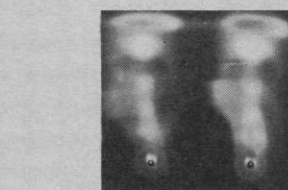
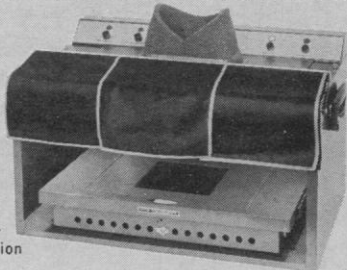
25-27. American Acad. of **Pediatrics**, Montreal, P.Q., Canada. (E. H. Christopherson, 1801 Hinman Ave., Evanston, Ill. 60204)

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**AMERICAN ASSOCIATION FOR THE
ADVANCEMENT OF SCIENCE**

1515 Mass. Ave., NW, Washington, D. C. 20005

25-27. Academy of Religion and Mental Health, annual mtg., Chicago, Ill. (G. C. Anderson, 16 E. 34 St., New York, N.Y.)

25-28. Society of Economic Paleontologists and Mineralogists, St. Louis, Mo. (R. Tener, The Society, Box 979, Tulsa, Okla.)

25-28. American Assoc. of Petroleum Geologists, St. Louis, Mo. (N. C. Smith, Box 979, Tulsa, Okla.)

25-28. Improving Effectiveness in Research and Development Administration, 11th annual inst., American Univ., Washington, D.C. (P. W. Howerton, Center for Technology and Administration, American Univ., 2000 G St., NW, Washington, D.C. 20006)

25-29. Radioecological Concentration Processes, intern. symp., Stockholm, Sweden. (Inst. of Radiophysics, Stockholm 60)

25-30. American Acad. of Neurology, Philadelphia, Pa. (T. D. Swedien, 7100 France Ave., Minneapolis, Minn.)

25-7. Psychotherapy, 16th Lindauer week, Lindauer, Germany. (H. Stolze, Adalbert-Stifterstr. 31, 8 München 27, Germany)

26. National Cystic Fibrosis Research Foundation, Atlantic City, N.J. (The Foundation, Medical Dept., 521 Fifth Ave., New York, N.Y. 10017)

26-27. Electromagnetic Relays, 14th annual natl. conf., Oklahoma State Univ., Stillwater. (D. D. Lingelbach, Dept. of Electrical Engineering, Oklahoma State Univ., Stillwater 74075)

26-28. Joint Computer Conf., Boston, Mass. (J. L. Mitchell, P.O. Box 460, Lexington, Mass. 02173)

26-28. Institute of Electrical and Electronics Engineers, region 6, annual conf., Tucson, Ariz. (L. P. Huelsman, Dept. of Electrical Engineering, Univ. of Arizona, Tucson 85721)

26-28. National Acad. of Engineering, 2nd annual mtg., Washington, D.C. (Secretary, NAE, 2101 Constitution Ave., NW, Washington, D.C. 20418)

27-29. Institute of Mathematical Statistics, Upton, L.I., N.Y. (G. E. Nicholson, Jr., Univ. of North Carolina, Chapel Hill)

27-29. American Pediatric Soc., Atlantic City, N.J. (C. D. Cook, 333 Cedar St., New Haven, Conn. 06510)

27-1. Technical Union of Italian Pharmacists, 9th natl. congr., Naples, Italy. (UTI. Far. Secretariat, Via Balbi 29/4, Genoa)

28-1. Southwestern Assoc. of Naturalists, 13th annual mtg., Texas College of Arts and Industries, Kingsville. (J. T. Peacock, Dept. of Biology, Texas College of Arts and Industries, Kingsville, 78363)

28-29. Electrical Conduction Properties of Polymers, symp., Pasadena, Calif. (A. Rembaum, Jet Propulsion Laboratory, California Inst. of Technology, 4800 Oak Grove Dr., Pasadena)

28-30. Central States Anthropological Soc., annual mtg., St. Louis, Mo. (G. H. Fathauer, Dept. of Sociology and Anthropology, Miami Univ., Oxford, Ohio 45056)

28-30. Economic and Social Aspects of Technological Transfer, conf., Airlie House, Warrenton, Va. (D. L. Spencer, Dept. of Economics, Howard Univ., Washington, D.C. 20001)

28-30. Wildflower Pilgrimage, 16th an-

nual, Gatlinburg, Tenn., and Great Smoky Mountain Natl. Park. (A. J. Sharp, Dept. of Botany, Univ. of Tennessee, Knoxville)

29-30. Georgia Acad. of Science, Georgia Southern College, Statesboro. (J. T. May, School of Forestry, Univ. of Georgia, Athens)

29-30. Mississippi Acad. of Sciences, Mississippi State Univ., State College. (C. Q. Sheeley, Box 574, State College 39762)

29-30. Population Assoc. of America, New York, N.Y. (A. S. Lunde, Natl. Center for Health Statistics, U.S. Public Health Service, Washington, D.C. 20201)

29-30. American Assoc. of University Professors, Atlanta, Ga. (W. P. Fidler, The Association, 1785 Massachusetts Ave., NW, Washington, D.C.)

29-1. Association of Clinical Scientists, Chicago, Ill. (R. P. MacFate, 300 N. State St., Chicago, Ill. 60610)

29-1. American Soc. for the Study of Sterility, Chicago, Ill. (H. H. Thomas, 944 S. 18 St., Birmingham, Ala.)

May

1. American Federation for Clinical Research, Atlantic City, N.J. (J. F. Bryan, 2000 P St., NW, Washington, D.C. 20036)

1-4. AAAS, Southwestern and Rocky Mountain Div., Las Cruces, N.M. (M. G. Anderson, P.O. Box AF, University Park, N.M. 88070)

1-4. American Soc. for Clinical Investigation, Atlantic City, N.J. (G. W. Liddle, School of Medicine, Vanderbilt Univ., Nashville, Tenn.)

1-4. American College of Obstetricians and Gynecologists, Chicago, Ill. (R. A. Kimbrough, 79 W. Monroe, Chicago 60603)

1-5. American Soc. for Microbiology, annual mtg., Los Angeles, Calif. (R. W. Sarber, The Society, 115 Huron View Blvd., Ann Arbor, Mich. 48103)

1-6. Electrochemical Soc., annual spring mtg., Cleveland, Ohio. (The Society, 30 E. 42 St., New York 10017)

1-6. International College of Surgeons, North American Federation, congr., Houston, Tex. (S. E. Henwood, 1516 Lake Shore Dr., Chicago, Ill. 60610)

2-3. Canadian Aeronautics and Space Inst., annual mtg., Ottawa, Ontario. (The Institute, 77 Metcalfe St., Ottawa 4)

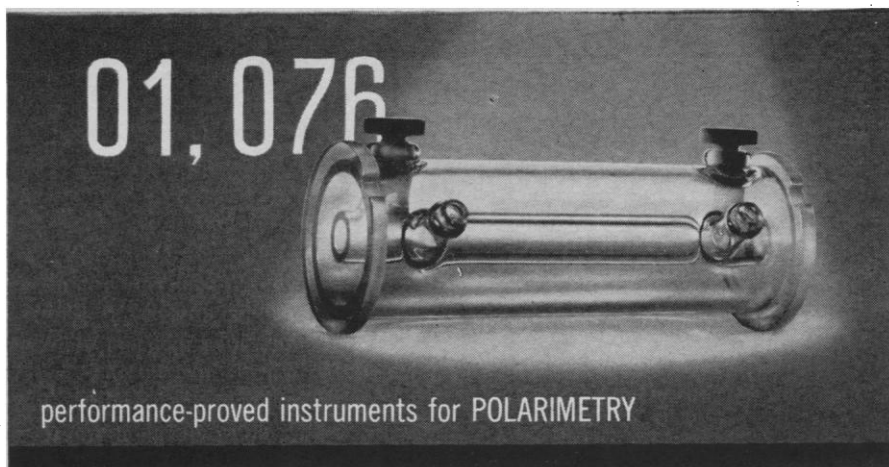
2-3. Bioengineering, 3rd annual Rocky Mountain symp., University of Colorado, Boulder. (J. C. Daniel, Dept. of Biology, Univ. of Colorado, Boulder 80304)

2-3. American Inst. of Mining, Metallurgical, and Petroleum Engineers, Inst. of Petroleum Engineers, Wichita Falls, Tex. (Executive Secretary, 345 E. 47 St., New York 10017)

2-4. Council of Biology Editors, Univ. of Notre Dame, Notre Dame, Ind. (R. E. Gordon, Dept. of Biology, Univ. of Notre Dame, Notre Dame)

2-4. Communications Satellite Systems, conf., American Inst. of Aeronautics and Astronautics, Washington, D.C. (W. J. Brunke, AIAA, 1290 Sixth Ave., New York 10019)

2-5. Isochronous Cyclotrons, intern. conf., Gatlinburg, Tenn. (R. S. Livingston, Oak Ridge Natl. Laboratory, P.O. Box X, Oak Ridge, Tenn. 27831)



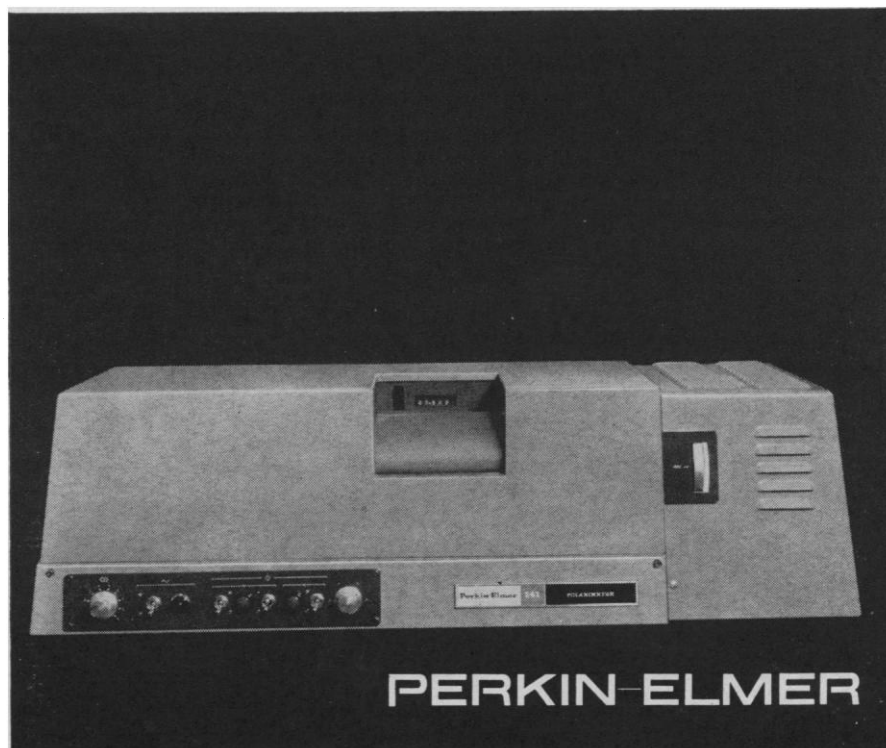
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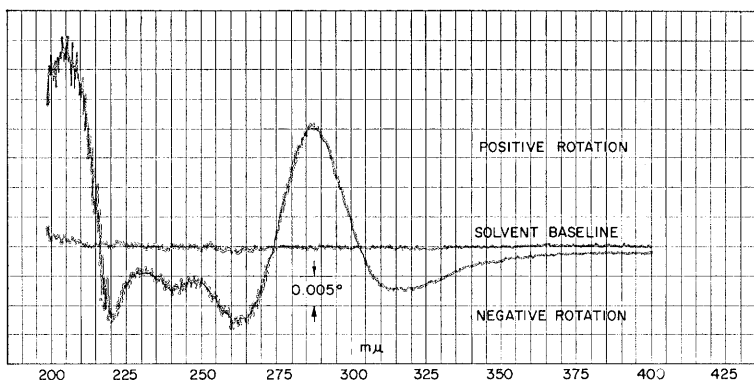
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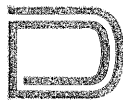
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2-7. International Inst. of **Optics**, conf., Paris, France. (Conference Secretariat, Inst. for Optics, 3, blvd. Pasteur, Paris 15)

3-5. **British Joint Computer Conf.**, Eastbourne, England. (Secretariat, Inst. of Electrical Engineers, Savoy Place, London W.C.2, England)

3-5. **Industrial Waste**, 21st conf., Purdue Univ., Lafayette, Ind. (D. E. Bloodgood, School of Civil Engineering, Purdue Univ., Lafayette 47907)

3-6. American Chemical Soc., Div. of **Rubber Chemistry**, San Francisco, Calif. (G. N. Vacca, Bell Telephone Laboratories, Murray Hill, N.J.)

3-8. Mechanism of Action of **Fungicides and Antibiotics**, intern. symp., Biological Soc. of the GDR, Reinhardtsbrunn, East Germany. (H. Lyr, Inst. für Forstwissenschaften, Alfred-Möllerstr., 13 Eberswalde die Berlin)

4. Society for **Analytical Chemistry**, mtg., Bristol, England. (The Society, 14 Belgrave Sq., London, England)

4-6. **Genetics** Soc. of Canada, 11th annual mtg., Banff, Alberta. (C. O. Person, Dept. of Genetics, Univ. of Alberta, Edmonton, Canada)

4-6. Society for Experimental **Stress Analysis**, spring mtg., Detroit, Mich. (B. E. Rossi, 21 Bridge Sq., Westport, Conn. 06882)

4-7. **Virginia Acad.** of Science, Madison College, Harrisonburg. (R. C. Berry, Virginia Acad. of Science, P.O. Box 8203, Richmond 23226)

4-8. **Laboratory Medicine**, 12th congr., Bad Kissengen, West Germany. (W. Altbath, Katharinengasse 3, 87 Würzburg, Germany)

4-11. **Instability Phenomena in Galaxies**, symp., Armenian SSR. (A. N. Hakopian, Acad. of Sciences of the Armenian SSR, Erevan)

5-6. **Human Factors in Electronics**, 7th symp., Minneapolis, Minn. (C. A. Baker, Honeywell, Inc., 2700 Ridgeway Rd., Minneapolis)

5-6. **Rabies**, natl. symp., Atlanta, Ga. (J. R. Ray, American Veterinary Medical Assoc., Chicago, Ill.)

5-6. **Strontium Metabolism**, intern. symp., Annan, Scotland. (J. H. Martin, United Kingdom Atomic Energy Agency, Chapelcross Works, Annan, Dumfriesshire, Scotland)

5-7. Society for American **Archaeology**, 31st annual mtg., Univ. of Nevada, Reno. (D. D. Fowler, Dept. of Anthropology, Univ. of Nevada, Reno 89507)

5-7. New Jersey Soc. of **Professional Engineers**, 42nd annual conf. and exhibition, Atlantic City. (K. G. Stanley, The Society, 495 West State St., Trenton, N.J. 08618)

5-7. **Midwestern Psychological Assoc.**, Chicago, Ill. (F. A. Mote, Psychology Dept., Univ. of Wisconsin, Madison)

5-8. **Protides of the Biological Fluids**, 14th annual colloquium, Bruges, Belgium. (P.O. Box 71, Bruges)

6-7. Institute on **Lake Superior Geology/Mineralogical** Soc. of America/Soc. of **Economic Geologists**, mtg., Michigan Technological Univ., Saulte Ste. Marie. (A. K. Snelgrove, Michigan Technological Univ., Houghton 49931)

6-7. **North Carolina Acad.** of Science, Catawba College, Salisbury. (J. A. Yarbrough, Meredith College, Raleigh, N.C.)