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The International Liquid Crystal Conference at Kent State University

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The International Liquid Crystal Conference at Kent State University

The papers which follow were presented at the International Conference on Liquid Crystals held at Kent State University, August 16–20, 1965. There were 129 registrants in attendance. To the knowledge of the authors, this is the first truly international conference on the subject; there were conferences held in 1933 and 1958 under the auspices of the Faraday Society which had representatives from a number of European countries.

Dr. Glenn H. Brown of Kent State University chaired the conference. The members of the Program Committee were G. W. Gray (England), A. J. Mabis (U.S.A.), and A. Saupe (W. Germany). This committee advised the Conference Chairman on matters of program content and publication plans. The Steering Committee which helped in the general planning for the Conference consisted of J. Dreyer (U.S.A.), J. Fergason (U.S.A.) and H. McCune (U.S.A.). Dr. A. S. C. Lawrence (England), who was unable to attend the Conference, had enthusiastically supported the efforts to organize a conference and gave fully of his counsel during its planning stages.

A total of forty-two papers was presented authored by scientists from eight countries. Of these, two were plenary papers, one by Dr. R. Hosemann of the Fritz-Haber Institute on the subject of "The Paracrystal as a Model for Liquid Crystals" and the other by Dr. Conmar Robinson of London on "The Cholesteric Phase in Polypeptides and Biological Systems". Conference papers were presented by Dr. G. W. Gray, Chemistry Department, University of Hull, England, on "Influence of Molecular Structure on Liquid Crystalline Properties" and by J. L. Fergason, Westinghouse Electric Corporation, Pittsburgh, Pennsylvania on the subject "The Cholesteric Phase".

One of the highlights of the conference was an address on Tuesday evening, August 17 by the Honorable Charles A. Mosher, United States Congressman from the Thirteenth District, Ohio. Congressman Mosher gave a stimulating address on "Scientists and Congressmen". Among his many challenging remarks he said "it is imperative for you and all scientists to become better informed than ever before concerning the processes of government."

A comparison of the general tone and subject matter with past conferences shows first of all a continuing interest in synthesis of new liquid crystalline compounds, a comparison of properties of members of homologous series, and a study of the influence of substituents on properties of liquid crystals. Optical studies of smectic, nematic and cholesteric compounds remain very popular and the equipment is continually being refined for such studies. One can also sense a new trend in research in the field which shows more concentration on molecular properties than on the bulk physical properties of liquid crystals. For example, the classical studies of structural order relying on bulk measurement of dielectric and diamagnetic anisotropy are giving way to spectroscopic techniques such as n.m.r. and infrared which measure directly parameters associated with individual molecules.

The following served as chairmen for the various sessions of the Conference: Dr. Joel Goldmacher (U.S.A.), Dr. Amos Horney (U.S.A.), Dr. R. D. Ennulat (U.S.A.), Dr. A. J. Mabis (U.S.A.), Dr. Daniel Berg (U.S.A.), Mr. J. L. Fergason (U.S.A.), Dr. J. J. Wolken (U.S.A.), Dr. G. W. Gray (England), and Dr. W. G. Shaw (U.S.A.).

Four special films and demonstrations were presented during the conference on Wednesday, August 18 which illustrated some of the aesthetic characteristics of the liquid crystalline state. These films were shown by Dr. W. Stürmer of Berlin, Dr. J. H. Muller of Ft. Belvoir, Virginia (U.S.A.), Dr. M. Vogel of San Jose, California (U.S.A.), and F. Davis of Pittsburgh, Pennsylavania (U.S.A.).

It was agreed at a general meeting of the Conference that a long period should *not* elapse before the next symposium. By a clear majority it was agreed that the next conference on the subject should be planned for 1968. Professor Brown of Kent State University agreed to select a committee to explore location and finan-

cing for the next conference. Individuals were invited to write to Professor Brown if they had suggestions to make on the subject of the next symposium.

A substantial number of the papers presented at the Conference are included in this collection. A list of papers which were presented at the Conference but are not here included is also appended, in some cases with an indication of where the contribution may be found in the literature. No attempt has been made to have the printed arrangements of the papers follow the order in which they were presented at the Conference.

The conference would not have been possible without financial support from a number of U.S. Government agencies and several industries to whom we are grateful. These were: Directorate of Chemical Sciences, U.S. Air Force Office of Scientific Research, U.S. Army Research Office—Durham, National Aeronautics and Space Administration, Procter and Gamble Company, Picker X-Ray Coroporation, Polacoat Incorporated, Radio Corporation of America, Westinghouse Electric Corporation, Matheson Scientific Company, C. P. Hall Company, E. H. Sargent Company and Kent State University.

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