Meetings and Societies

High-Polymer Chemistry

The seventh Canadian High Polymer Forum, cosponsored by the Chemical Institute of Canada and the National Research Council of Canada, was held in Sarnia, Ontario, 8–9 Nov. 1956. Papers were presented on all phases of high-polymer chemistry.

Radical reactions continue to hold the interest of a large segment of the group interested in the fundamentals of high-polymer chemistry. R. J. Orr found that when aconitic acid and styrene were copolymerized, the acid molecules in the polymeric chain affected the reactivity of the growing radical. To determine reactivity ratios, it was found necessary to modify the conventional copolymerization equation to take account of charges on the reacting species, the ionic strength of the medium, and the dielectric constant of the medium. When the aconitic acid was esterified, the anomalous effect was removed.

S. Bywater put forward a mechanism for the reduction of ferric ion by molecular acetoin and the first radical formed by their interaction, which will account for the known reduction of ferric ion by hydroxy ketones. K. E. Russel has found that it is possible to produce polymers of high molecular weight by using large diradicals formed by decomposing monometric sebacyl and azelayl peroxides in the presence of styrene monomer.

The kinetics of the photo-initiated free-radical polymerizations of methyl methacrylate in aqueous solution was described by C. C. Menon and M. Santappa in a paper read by L. Breitman. It was concluded that initiation was by OH or Cl free radicals and termination was mutual. The theory of determining particle sizes for light-scattering measurements was described by W. Heller. Preliminary data showed the usefulness of this technique in elucidating the mechanism of emulsion polymerization.

D. J. Worstold reported that, in the polymerization of α-methyl styrene by the boron trifluoride-diethyl ether complex in the presence of excess water, the rate with respect to monomer changes from second to first order as the temperature is raised. By preparing samples of varying low molecular weight, C. Sivertz was able to show a sharp drop in the ratio of chain transfer constant to propagation constant after the first addition product. F. R. Eirich discussed the mechanism of reaction when Ziegler-type catalysts are used in polymerization.

The treatment and use of polymeric intermediates have received the attention of a number of individuals recently. J. A. Parker reported the preparation of mixed carboxylic carbamic anhydrides from the reaction of aromatic isocyanates with a series of monoesters of aliphatic dibasic acids and described how these intermediates might be used as cross-linking agents for polyesters. The physical properties of castable elastomers based on polyether glycols and diisocyanates were described by L. A. Dickenson.

N. Nikolov reported the preparation of graft copolymers by ozonization of one latex, followed by addition of a second monomer. The difficulty in milling graft copolymers was attributed to branching during the ozonization step. M. L. Miller described the polymerization of acrylamide and acrylonitrile to form block polymers containing two to three long blocks and graft polymers containing one to 20 long grafts. Some properties of these were compared with those of copolymers of the same composition. M. Szwarc described how the lack of a termination step when one is dealing with an anionic polymerization in a nonproton donating solvent resulted in polymers with "living" ends. These "living" polymers make such a system particularly suited to the synthesis of block polymers.

A number of papers on the solution properties of high polymers were presented. In a study of the dilute solution viscosities of fractions of branched and linear samples of polyvinyl acetate, L. M. Hobbs reported that part of the increase in the Huggins constant K', usually associated with branching, was actually due to an effect of branching on the shear behavior. J. A. Manson disclosed that a combination of viscosity and light-scattering measurements on fractions of graft polymers, prepared by polymerizing styrene in the presence of oxidized styrene, showed that for a given molecular weight, the intrinsic viscosity, molecular size, and second virial coefficient were all lower than for linear fractions of polystyrene. Although the Huggins constant K' is sensitive to small amounts of short branching, it is not apparently affected by the presence of a few simple, linear branches. M. A. Golub reported the viscosity of natural rubber in benzene at rates of shear down to 0.3 sec^{-1}. The rapid increase in viscosity found at very low shear rates confirms the theoretical relation derived by Bueche.

B. E. Conway discussed the viscosity behavior of polyelectrolytes at low concentrations and varying shear rates. S. N. Chinai, in a study by light-scattering and viscosity of various poly-n-alkyl methacrylate, found that (i) initially the degree of flexibility of the chain increased as the size of the pendant group increased; (ii) the flexibility with n-hexyl methacrylate was much less than for any of the lower members. The effect of the hexyl group is as expected, while the result with the lower members is attributed to solvent interaction. J. J. Hermans, in a study of polyvinyl acetate in toluene, found that the apparently anomalous behavior in the relation n sp/c at extreme dilution may be removed by applying the necessary corrections. The effect of shear rate persists even at the limit of infinite dilution.

M. Nakagaki presented a theory of foam formation based on the view that the foam formation of a solution is related to the energy required to remove a unit area of absorbed layer. The factors affecting foam formation of solutions of gelatin, proteins, and copolymers of vinyl acetate and vinyl alcohol are explained by this theory. D. A. I. Goring discussed the molecular weight distribution, electrophoretic heterogeneity, and polyelectrolyte behavior of lignin.

Various properties of high polymers were discussed by a number of chemists. E. B. Bagley, in a study of the flow of polyethylene through a capillary, reported a large discontinuity in the slope of the log shear rate-lot shear stress curve. This discontinuity was associated with an abrupt change from smooth to rough extrusions as the shear stress increased. The plastic flow of both low- and high-molecular-weight butadiene copolymers containing combined acid groups cross-linked with metal oxides, observed upon slowly applying stress, was discussed by E. Catterall.

A study of the birefringence of copolymers of methyl methacrylate-diallylphthalate over the complete composition range, by K. Kawata, showed that the proportionality between the stress-optical coefficient and the absolute temperature does not hold over the entire temperature range for either of the two pure polymers but does hold for an 80/20 MMA-DAP copolymer. An opti-

mum in stress-optical coefficient was observed for MMApolymer at 127°C. D. W. Saunders has found that in natural rubber and gutta-percha vulcanizates, the stress-optical coefficient is independent of the degree of cross-linking, while in polyethylene and polymethylene it decreases with increasing degree of cross-linking. A paper read by K. Kawata described how a spectrum for the secondary dispersion region of polymethyl methacrylate had been obtained and how it contained a peak and a plateau, to which different values of the activation energy could be assigned.

Two papers on the degradation of high polymers completed the program. M. V. Lock reported that, in the photo-oxidation of amylose sensitized by anthraquivoid compounds, a random attack on the polymer occurs and a multichain mechanism is in operation. The degradation may be followed by viscosity measurements. S. Bywater found that in the decomposition of poly-α-methylstyrenes the rate of thermal decomposition is first order, while the catalyzed decomposition rate is zero order with respect to polymer concentration.

R. A. STEWART
Research and Development Division, Polymer Corporation, Sarnia, Canada

World Federation for Mental Health

The ninth annual meeting of the World Federation for Mental Health held in Berlin, 12–17 Aug., had as its major theme "Mental health in home and school." The federation's true multidisciplinary nature was evident in the representation of its 104 societies from the fields of psychiatry, psychology, social work, sociology, education, and the other social sciences, and in the election of Margaret Mead, a cultural anthropologist, to the presidency.

Mead, in her opening address on "Mental health and its international implications," stressed the importance of interdisciplinary cooperation. "The concept of mental health arose from the study of mental disorders, of those human beings who, either from circumstances of individual life-history, physical defect, or as a result of dislocations in society, were disturbed in their functioning as whole human beings. Meanwhile, in those sciences concerned with the study of well human beings and of human societies, there developed a picture of the potential well-being which human beings might attain were the appropriate social and individual measures taken to insure them an upbringing and a place in society consonant with their potentialities. From the study of well children, and the study of small stable communities, and the study of well-functioning adults, it became clear that nowhere in the world, even under the best existing conditions, were we actually realizing the potentialities of human beings to live as whole persons. Meanwhile, existing conditions were steadily putting more strain on human beings, as life became more complicated and individual lives more fragmented, as individuals were born into one kind of society, and often before they were adolescent were required to adjust to another kind, and might have to live as parents and grandparents in still other forms of social life. There has been, it is true, another side to this increasing complication in the growth of scientific knowledge of human behavior, and of those disciplines —psychiatry, social work, nursing, pediatrics, modern education, community planning, and human relations in industry—designed to apply this knowledge constructively in human life. But these basic sciences and disciplines also suffered from the fragmentation of modern civilization, so that it became necessary, if we were to have a concept of wholeness for human beings, also to develop a concept of wholeness for those sciences and fields of applications which were concerned with human beings, as individuals, in families, in schools, in the community, the nation, and the world.

"This is the concept of mental health, which brings together all of the disciplines concerned with human behavior in the pursuit of a great wholeness for human beings."

The general theme of Mead's closing address was the contribution that each culture can make to the solution of present-day world problems. She stressed three different possible contributions: (i) that of North America to the development of a sense of trusteeship for the irreplaceable natural resources of the world which would have to follow the present lavish overuse of these resources; (ii) that of Israel, where out of the age-long experience of racial persecution a new level of acceptance of human beings of different physical type and cultural background is being painfully evolved; and (iii) that of Berlin, where from the tragic circumstances of devastation and fragmentation a new clarification of the differences between the contrasting political systems that now jostle each other so closely may emerge.

Eduardo Krapf, who resigned the presidency of WFMH to become chief of the Mental Health Section of the World Health Organization, reported on the relationship of the WFMH and WHO, clearly describing the close cooperation between the two agencies, with WHO taking leadership in the medical area of mental health and mental illness, in the improvement of clinical psychiatric training and treatment facilities, and WFMH becoming increasingly involved in multidisciplinary mental health activities.

Helen Ascher's report on the "Relationship of WFMH to the U.N." indicated an increasingly productive cooperative relationship. The WFMH has devoted considerable effort to studying and publicizing some of the social implications of technical assistance, including a book edited by Mead and published by UNESCO on *Cultural Patterns and Technological Change,* and a pamphlet on "The social implications of technical assistance"—a summary record of a panel discussion held by WFMH at the United Nations in April 1955. The latest development in the U.N., the new agency to deal with peaceful uses of atomic energy, has stimulated the WFMH to set up a committee of its executive board to plan how some of the fears and anxieties that will accompany the industrial revolution can be identified and allayed.

The reports of the research being carried out by WFMH also indicate its broadening interest and increasing collaborative activity with foundations, nongovernmental organizations, and U.N. specialized agencies. Research presently being undertaken includes a joint project with UNESCO on mental health and education being conducted by Cato Hambro of Oslo, Norway; a world-wide study of student mental health jointly with the Field and Grant foundations, and study of the conduct of small international conferences jointly with the Josiah Macy, Jr. Foundation, and a working conference of executives of international governmental organizations on problems of international administration, jointly with the Carnegie Endowment for International Peace.

The tenth annual meeting of WFMH will be held in Copenhagen, Denmark, in August 1957.

MOTTRAM TORRE
Faculty of Medicine, Columbia University

Darcy Centennial Symposia

The International Association of Scientific Hydrology, a constituent organization of the International Union of Geodesy and Geophysics, met in Dijon, France, 20–26 Sept. 1956. The meeting was designated the Darcy Centennial Symposia in honor of the eminent French hydraulic engineer, Henri Darcy (1803–58). His experiments on sand filtration in Dijon led to publication in 1856 of the linear relationship between velocity and hydraulic gradient, now commonly known as Darcy's law.

About 100 delegates participated in the symposia, representing 20 nations:

Austria, Belgium, Czechoslovakia, Egypt, France, Germany, Great Britain, Hungary, Israel, Italy, Japan, Morocco, the Netherlands, Poland, the Soviet Union, Spain, Switzerland, Tunisia, the United States, and Yugoslavia. Delegates from the United States included W. E. Hiatt (U.S. Weather Bureau); L. R. Beard (Corps of Engineers, U.S. Army); T. Dalrymple, L. B. Leopold, and M. I. Rorabaugh (U.S. Geological Survey); F. H. Klaer (Ranney Method Water Supplies, Inc.); V. T. Chow (University of Illinois); and D. K. Todd (University of California).

A total of 74 papers were presented with six sessions devoted to floods, six to ground-water hydrology, and one to evaporation. Papers were presented in French or English with summaries following in the alternate language. Most papers were actively discussed within the time limits available. There was considerable discussion regarding the limits of the range of validity of Darcy's law. At the upper limit distinctions were made between deviations in the linear relationship and the inception of turbulent flow within porous media. Some delegates argued that a lower limit above zero velocity could be demonstrated theoretically, while K. Ubell (Hungary) indicated that experimental studies were underway to confirm this.

The difficulties encountered in extrapolating flood frequencies are apparently international in character. Although advocates could be found for particular methods, by far the predominant sentiment was that errors involved in estimating infrequent floods made the use of such methods dangerous for design of large river-control structures. Because of the need for further study and clarification of the value of flood frequency methods, it was recommended that special sessions be devoted to the subject at the general assembly of the International Union of Geodesy and Geophysics to be held in Toronto, Canada, in September 1957.

The complete texts of papers presented at the symposia have been published in a three-volume proceedings with the help of a grant from UNESCO. Totaling 709 pages, the complete proceedings are available from L. J. Tison, General Secretary, International Association of Hydrology, 61 rue des Ronces, Gentbrugge, Belgium.

Immediately following the symposia, a 3-day excursion was arranged into southern France. About 50 delegates participated in this enjoyable trip. The itinerary included visits to a meteorological station in the Alps near Briancon, the Fournel hydroelectric plant and hydrological station near Serre Poncon, and the Pont Mirabeau hydrological station on the Durance River and a tour of the Lower Durance Valley including ground-water recharge operations at Chateaurenard.

Arrangements for the United States papers and delegates were competently handled by R. N. Wilson, hydrology program chairman of the American Geophysical Union. It was the unanimous opinion of all in attendance at Dijon that the success of the symposia could be directly attributed to the untiring efforts of Tison, who was ably assisted by his wife, son, and daughter-in-law.

DAVID K. TODD
University of California, Berkeley

Conference on Scientific Information

Preliminary plans for the International Conference on Scientific Information [*Science* **124**, 595 (28 Sept. 1956)] were reviewed and warmly endorsed by approximately 50 scientists and experts in documentation who met at the National Academy of Sciences on 11 Nov. under the chairmanship of Warren Weaver, vice president for the natural and medical sciences of the Rockefeller Foundation. Lloyd Berkner, president of Associated Universities, Inc., and president of the International Council of Scientific Unions (ICSU), represented ICSU at the meeting. Alexander King, chief scientific officer of the Intelligence Division, Department of Scientific and Industrial Research, United Kingdom, represented UNESCO and the International Federation for Documentation. Based on this group's approval of the proposed plans, the sponsors—the National Science Foundation, the American Documentation Institute, and the National Academy of Sciences–National Research Council—are now proceeding with detailed arrangements for holding the conference in Washington, D.C., early in November of 1958.

The subject matter to be covered at the conference will be grouped in the following general areas:

1) Requirements of scientists for scientific literature and reference services: knowledge now available and methods of ascertaining their requirements.

2) The function and effectiveness of abstracting and indexing services for storage and retrieval of scientific information and possible development of such services.

3) Effectiveness of scientific monographs, compendia, and specialized information centers for storage and retrieval of scientific information: survey of present practices, trends, and new and proposed techniques and types of services.

4) Organization of information for storage and retrospective search: comparative characteristics of existing systems.

5) Organization of knowledge for storage and retrospective search: conceptual and mechanical problems in the design of new systems.

6) Organization of information for storage and retrospective search: possible development of a general theory of storage and search.

7) Responsibilities of governmental bodies, professional societies, universities, and research and industrial organizations for research and training in scientific documentation and for operation of scientific information services.

Participation will be limited to specialists in the fields covered by the agenda. These will include authors of papers accepted for inclusion in the conference program and members of review panels, which are the working panels designated to lead the discussion of papers in each working area. Individuals may serve both as authors and as members of review panels, except that authors may not serve on review panels in areas covered by their own papers. In the interest of effective discussion it is believed that the number of participants must not exceed 150. (This includes authors and members of review panels.) Observers will be encouraged to attend the conference; however, they will be asked to register in advance.

Final authority for accepting papers for the program has been vested by the sponsors in a Conference Committee. This committee, through the secretariat, will call on the services of the most highly qualified experts throughout the world to referee all papers submitted. The criteria that have been adopted for papers to be included on the program are as follows:

1) Papers will deal with work that has not been published or presented at any open meeting. Work will be considered to have been published if it has been reproduced for general distribution in any form or if copies have been deposited in libraries where they are available to the public.

2) Papers will be directed to specialists in the field covered. Only sufficient background information will be included to serve as an adequate framework for new work described in the papers. More general background material will be indicated by references.

3) Papers dealing with systems and methods will describe these at length only when they have not been described previously. If new methods or systems are involved, these will be described in sufficient detail to enable other qualified workers to duplicate the procedures and the results. There will be sufficient information to enable qualified readers to judge the validity of results in objective terms.

4) Theoretical papers will clearly explain the factual basis from which theo-

retical conclusions have been drawn and will point the way to experimental methods of verifying predictions which follow from such theoretical conclusions.

Within this framework the Conference Committee invites contributions to the program from workers anywhere in the world who are interested in presenting papers in any of the areas covered by the agenda. Attendance at the conference will not be prerequisite for acceptance of an author's paper; however, efforts will be made to assist interested authors to attend.

Accepted papers will be printed and distributed to all participants at least 2 months in advance of the conference date so that they will not need to be read in their entirety at the conference. Instead, they will be presented in brief outline for discussion by review panels of experts and by all interested participants. The conference proceedings will be published in book form.

Individuals interested in submitting papers should communicate with the executive secretary as soon as possible, and in any case not later than *31 Jan. 1957*. Such communications should indicate which general area of the agenda interests the author as well as the general subject matter to be covered by the proposed paper. All requests for further information should be addressed to the executive secretary, Dr. Alberto F. Thompson, International Conference on Scientific Information, National Academy of Sciences–National Research Council, 2101 Constitution Ave., Washington 25, D.C.

Meeting Notes

■ The Western Spectroscopy Association, organized in 1953 to fill the need felt by spectroscopists in the 11 western states for regular West Coast scientific meetings concerned with advances in the broad field of spectroscopy, will hold its fourth annual 2-day conference at the University of California in Los Angeles, 24–25 Jan. The program will consist entirely of invited papers, chiefly describing frontier areas in spectroscopy; there will be ample time for discussion.

Among the subjects to be covered are relaxation mechanisms, coincidence counting, nuclear magnetic resonance techniques, and far infrared, free-radical, and shock-tube spectra. Applications will be described as well as theoretical considerations. An exhibit of spectroscopic equipment also is being planned.

All interested persons may attend this meeting. Further information can be obtained from the chairman of the association, Dr. Stanley S. Ballard, Scripps Institution of Oceanography, San Diego 52, Calif.

■ The British Society of Rheology is organizing a Conference on the Rheology of Elastomers to be held at the Rubber Producers Research Association at Welwyn Garden City, 30–31 May. Contributions are invited for this conference and intending speakers are asked to first write to the Hon. Secretary, 52, Travistock Road, Edgware, Middlesex, England.

■ The second World Metallurgical Congress will be held in Chicago, Ill., 2–8 Nov. 1957. More than 500 metal scientists from approximately 35 nations are expected. Already reservations have been received from 263 conferees in 27 countries. Advance registrations from England number 45; Germany is next with 39.

The first world congress on metals and metals processing and fabrication was held in Detroit in 1951. Staged in conjunction with the National Metal Exposition and Congress, it had an attendance well over 35,000. Of this group, 550 were metal engineers from 33 foreign countries.

A series of special industrial plant tours and a week of technical discussions on metal working operations will constitute the congress program. The 39th annual National Metal Exposition and Congress will be held at the same time as the world gathering.

Society Elections

■ Soil Conservation Society of America: pres., J. S. Russell, farm editor, *Register and Tribune*, Des Moines; 1st v. pres., Russell G. Hill, Michigan State College; 2nd v. pres., J. K. Vessey, U.S. Forest Service; treas., Howard F. Barrows, Austin-Western Works, Aurora, Ill.; exec.-sec., H. Wayne Pritchard, 838 Fifth Ave., Des Moines, Iowa.

■ New Mexico Academy of Science: pres., B. K. Graham, Artesia High School; v. pres., Edward G. Damon, Alamogorda High School; sec.-treas., William J. Koster, Department of Biology, University of New Mexico.

■ Kresge-Hooker Science Library Associates: pres., Thomas A. Boyd (retired), General Motors Corporation; v. pres., Sereck H. Fox, R. P. Scherer Corporation; sec.-treas., Icie Macy Hoobler, Merrill-Palmer School, Detroit 2; exec.-sec., Wendell H. Powers, Wayne State University.

■ American Academy for Cerebral Palsy: pres., Nicholson J. Eastman, Johns Hopkins Hospital; pres.-elect, William T. Green; sec.-treas., Raymond R. Rembolt, Iowa Hospital-School, State University of Iowa, Iowa City, Ia.

■ Mississippi Valley Medical Society: pres., George E. Kirby; pres.-elect, Joseph C. Edwards; sec.-treas., Harold Swanberg, 209–244 W.C.U. Building, Quincy, Ill.; asst. sec.-treas., Jacob Reisch, Springfield, Ill. The vice presidents are John R. Wolff, Chicago; Arthur F. Fritchen, Decorah, Ia.; William P. Callahan, Wichita, Kan.; Waltman Walters, Rochester, Minn.; Walter T. Gunn, St. Louis, Mo.; George W. Covey, Lincoln, Neb.; R. H. Waldschmidt, Bismarck, N.D.; Roland G. Mayer, Aberdeen, S.D.; and Arnold S. Jackson, Madison, Wis.

■ American Society for Engineering Education: pres., W. L. Everitt, University of Illinois; sec., W. Leighton Collins, University of Illinois; treas., John Gammell, Allis-Chalmers Manufacturing Company, Milwaukee, Wis. The vice presidents are F. C. Lindvall, C. A. Brown, W. T. Alexander, and R. J. Woodrow.

Forthcoming Events

January

7–11. International Social Science Council, 3rd gen'l. assembly, Paris, France. (Secretary Gen'l., ISSC, 19, avenue Kieber, Paris 16.)

10. Technical and Clinical Applications of Radioisotopes, Assoc. of Vitamin Chemists, Chicago, Ill. (M. Freed, Dawe's Laboratories, Inc., 4800 S. Richmond St., Chicago 32.)

10–12. American Group Psychotherapy Assoc., 14th annual, New York, N.Y. (C. Beukenkamp, Jr., AGPA, Room 300, 345 E. 46 St., New York 17.)

14–16. Cottonseed Processing as Related to the Nutritive Value of the Meal, 4th conf., New Orleans, La. (Southern Regional Research Lab., USDA, 1100 Robert E. Lee Blvd., New Orleans 19.)

14–16. Reliability and Quality Control in Electronics, 3rd natl. symp., Washington, D.C. (C. M. Ryerson, Radio Corp. of America, Bldg. 10–6, Camden 2, N.J.)

14–18. Society of Automotive Engineers, annual, Detroit, Mich. (Meetings Div., SAE, 29 W. 39 St., New York 18.)

14–20. Indian Science Cong. Assoc., 44th meeting, Calcutta, India. (General Secretary, ISCA, 1 Park St., Calcutta 16.)

15. Society for Applied Spectroscopy, Philadelphia, Pa. (F. M. Biffen, Johns-Manville Research Center, Manville, N.J.)

16–23. Australian and New Zealand Assoc. for the Advancement of Science, 32nd meeting, Dunedin, N.Z. (J. R. A. McMillan, ANZAAS, Science House, 157 Gloucester St., Sydney, N.S.W., Australia.)

17. Constructive Medicine in Aging: Cardiovascular Disorders in the Aged, symp., Cincinnati, Ohio. (J. B. Chewning, Wm. S. Merrell Co., Cincinnati 15.)

17–18. Engineers Joint Council, New York, N.Y. (EJC, 29 W. 39 St., New York 18.)

18–19. Symposium on Blood, 6th annual, Detroit, Mich. (W. H. Seegers, Wayne State Univ. Coll. of Medicine, Detroit 7.)

21–22. Solar Furnace Design and Operation, Phoenix, Ariz. (J. I. Yellott, Assoc. for Applied Solar Energy, 3424 N. Central Ave., Phoenix.)

21–25. American Inst. of Electrical Engineers, winter general, New York, N.Y. (N. S. Hibshman, AIEE, 39 W. 39 St., New York 18.)

23–25. Very Low Frequency Electromagnetic Waves, symp., Boulder, Colo. (J. R. Wait, National Bureau of Standards, Boulder.)

24–25. Western Spectroscopy Assoc., 4th annual, Los Angeles, Calif. (S. S. Ballard, Scripps Inst. of Oceanography, San Diego 52, Calif.)

25. Bibliographical Soc. of America, New York, N.Y. (H. W. Liebert, Yale Univ. Library, New Haven, Conn.)

25–26. Protein Metabolism, 13th annual conf., New Brunswick, N.J. (W. H. Cole, Rutgers Univ., New Brunswick, N.J.)

28–29. Many Body Problem, symp., Hoboken, N.J. (G. J. Yevick, Dept. of Physics, Stevens Inst. of Technology, Hoboken.)

28–31. American Meteorological Soc., New York, N.Y. (K. C. Spengler, AMS, 3 Joy St., Boston 8, Mass.)

28–31. Modern Methods of Analytical Chemistry, 10th annual symp., Baton Rouge, La. (P. W. West, Louisiana State University, Baton Rouge.)

30–1. American Assoc. of Physics Teachers, New York, N.Y. (F. Verbrugge, Carleton College, Northfield, Minn.)

30–2. American Physical Soc., annual, New York, N.Y. (K. K. Darrow, APS, Columbia Univ., New York 27.)

30–31. College-Industry Conf., 9th annual, American Soc. for Engineering Education, Los Angeles, Calif. (Univ. of California Extension, Engineering, Los Angeles 24.)

31–1. Digital Computing in the Aircraft Industry, NYU–IBM symposium, New York, N.Y. (M. Woodbury, New York Univ., Research Div., 401 W. 205 St., New York, N.Y.)

31–2. Western Soc. for Clinical Research, 10th annual, Carmel-by-the-Sea, Calif. (A. J. Seaman, WSCR, Univ. of Oregon Medical School, Portland 1.)

February

3. American Assoc. of Bioanalysts, 3rd annual Margaret Beattie Lecture, San Francisco, Calif. (W. N. Reich, Walnut Creek-Lafayette, Laboratories, 1625 Locust St., Walnut Creek, Calif.)

4–8. American Soc. for Testing Materials, Philadelphia, Pa. (R. J. Painter, ASTM, 1916 Race St., Philadelphia 3.)

10–12. Canadian Ceramic Soc., 55th annual, Niagara Falls, Ont., Canada. (L. C. Keith, 49 Turner Road, Toronto, Ont.)

14. Present Status of Heart Sound Production and Recording, symp., Buffalo, N.Y. (R. M. Kohn, Univ. of Buffalo, 2183 Main Street, Buffalo 14, N.Y.)

14. Significance of Nucleic Acid Derivatives in Nutrition, Assoc. of Vitamin Chemists, Chicago, Ill. (M. Freed, Dawe's Laboratories, Inc., 4800 S. Richmond St., Chicago 32.)

14–15. Transistor Circuits, conf., Philadelphia, Pa. (G. H. Royer, Westinghouse Electric Corp., 356 Collins Ave., Pittsburgh 6, Pa.)

15–16. National Soc. of Professional Engineers, Charleston, S.C. (P. H. Robbins, 2029 K St., NW, Washington 6.)

15–17. National Assoc. for Research in Science Teaching, annual, Atlantic City, N.J. (C. M. Pruitt, Univ. of Tampa, Tampa, Fla.)

18–20. American Educational Research Assoc., annual, Atlantic City, N. J. (F. W. Hubbard, AERA, 1201 16 St., NW, Washington 6.)

18–22. American Soc. of Civil Engineers, Jackson, Miss. (W. H. Wisely, ASCE, 33 W. 39 St., New York 18.)

18–22. Endocrinology: Hormones in Blood, Ciba Found. Colloq. (by invitation), London, England. (G. E. W. Wolstenholme, 41 Portland Place, London, W.1.)

21–23. National Soc. of College Teachers of Education, annual, Chicago, Ill. (C. A. Eggertsen, School of Education, Univ. of Michigan, Ann Arbor.)

23. American Mathematical Soc., New Haven, Conn. (J. H. Curtiss, AMS, 190 Hope St., Providence 6, R.I.)

23. Oregon Acad. of Science, annual, Monmouth, (F. A. Gilfillan, Oregon State College, Corvallis.)

24–28. American Inst. of Mining, Metallurgical and Petroleum Engineers, annual, New Orleans, La. (E. O. Kirkendall, AIME, 29 W. 39 St., New York 18.)

24–28. International College of Surgeons, 10th biennial cong., Mexico, D.F., Mexico. (M. Thorek, ICS, 850 W. Irving Park Rd., Chicago 13, Ill.)

25–28. American Soc. of Heating and Air-Conditioning Engineers, Chicago, Ill. (A. V. Hutchinson, ASHAE, 62 Worth St., New York 13.)

26–28. Western Joint Computer Conf., Los Angeles, Calif. (M. J. Mendelson, Norden-Ketay Corp., 13210 Crenshaw Blvd., Gardena, Calif.)

March

1–2. American Physical Soc., Norman, Okla. (K. K. Darrow, Columbia Univ., New York 27.)

1–3. National Wildlife Federation, annual, Washington, D.C. (C. H. Callison, 232 Carroll St., NW, Washington 12.)

3–6. American Inst. of Chemical Engineers, White Sulphur Springs, W.Va. (F. J. Van Antwerpen, AIChE, 25 W. 45 St., New York 36.)

3–9. American Soc. of Photogrammetry, 23rd annual, joint with American Cong. on Surveying and Mapping, 17th annual, Washington, D.C. (C. E. Palmer, ASP, 1515 Massachusetts Ave., NW, Washington 5.)

4. Wildlife Soc., annual, Washington, D.C. (D. L. Leedy, Fish and Wildlife Service, Dept. of the Interior, Washington 25.)

4–6. National Biophysics Conf., Columbus, Ohio. (H. P. Schwan, School of Medicine, Univ. of Pennsylvania, Philadelphia 4.)

4–8. Analytical Chemistry and Applied Spectroscopy, Pittsburgh, Pa. (L. M. Melnick, U.S. Steel Corp., Applied Research Lab., Monroeville, Pa.)

7–9. Fundamental Cancer Research, 11th annual symp., Houston, Tex. (L. Dmochowski, M. D. Anderson Hospital, Texas Medical Center, Houston 25.)

7–9. Optical Soc. of America, semiannual, New York, N.Y. (A. C. Hardy, Massachusetts Inst. of Technology, Cambridge 39.)

10–16. Nuclear Engineering and Science Cong., 2nd, Philadelphia, Pa. (Engineers Joint Council, 29 W. 39 St., New York 18.)

11–15. National Assoc. of Corrosion Engineers, 13th annual, St. Louis, Mo. (Secretary, NACE, Southern Standard Bldg., Houston 2, Tex.)

13–15. Society of Exploration Geophysicists, 10th annual midwestern, Fort Worth, Tex. (G. A. Grimm, Tide Water Associated Oil Co., Box 2131, Midland, Tex.)

14. Effect of Radiation on Foods, Assoc. of Vitamin Chemists, Chicago, Ill. (M. Freed, Dawe's Laboratories, Inc., 4800 S. Richmond St., Chicago 32.)

18–21. Institute of Radio Engineers, natl. convention, New York, N.Y. (B. Warriner, IRE, 1 E. 79 St., New York 21.)

19–21. American Meteorological Soc., 151st national, Chicago, Ill. (K. C. Spengler, AMS, 3 Joy St., Boston 8, Mass.)

20–22. National Health Forum, Cincinnati, Ohio. (National Health Council, 1790 Broadway, New York 19.)

20–23. National Science Teachers Assoc., annual, Cleveland, Ohio. (R. H. Carleton, NSTA, 1201 16 St., NW, Washington 6.)

21–23. American Physical Soc., Philadelphia, Pa. (K. K. Darrow, APS, Columbia Univ., New York 27, N.Y.)

21–23. International Assoc. for Dental Research, annual, Atlantic City, N.J. (D. Y. Burrill, 129 E. Broadway, Louisville 2, Ky.)

21–23. Michigan Acad. of Science, Arts and Letters, annual, Detroit, Mich. (R. F. Haugh, Dept. of English, Univ. of Michigan, Ann Arbor.)

24–27. American Assoc. of Dental Schools, annual, Atlantic City, N.J. (M. W. McCrea, 42 S. Greene St., Baltimore 1, Md.)

25–27. American Soc. of Tool Engineers, 25th annual, Houston, Tex. (R. Gebers, 10700 Puritan, Detroit 38, Mich.)

25–28. American Acad. of General Practice, 9th annual scientific assembly, St. Louis, Mo. (M. F. Cahal, AAGP, Volker Blvd. at Brookside, Kansas City 12, Mo.)

26–28. Mechanisms for the Development of Drug Resistance in Microorganisms, Ciba Foundation Symp. (by invitation), London, England. (G. E. W. Wolstenholme, 41 Portland Pl., London, W.1.)