News and Notes

Meeting of the American Physical Society

Vivian A. Johnson

Department of Physics
Purdue University

The American Physical Society held a meeting at Oak Ridge, Tennessee, March 16–18. About 60 percent of the papers dealt with various problems of solid-state physics, there were two sessions on nuclear physics and beta emission, and a few papers were given on miscellaneous topics. The annual business meeting of the Division of Solid-State Physics followed one session. Because of the nature of the program, a large proportion of the approximately 300 physicists who attended the meeting were persons doing research or expecting to do research on problems of solid-state physics.

A single session on Thursday morning, March 16, was composed of nine contributed papers on various metallurgical aspects of solid-state physics. Among the topics described were the use of the semiconducting properties of cuprous oxide to study the oxidation of copper, electron diffraction studies of the orientation of alkali halide crystals grown on various single crystal substrates, relations between magnetostriction measurements and coercive force in permanent magnet alloys, quantitative study of the absorption of hydrogen by zirconium at varying temperatures and pressures, and the use of relaxation phenomena to measure the rate of diffusion of carbon in α-iron.

On Thursday afternoon one session featured invited papers on semiconductors and diffusion. K. Lark-Horovitz, of Purdue University, described the permanent and transient effects produced by irradiating germanium and silicon samples with electrons, deuterons, and neutrons. R. Smoluchowski, of Carnegie Institute of Technology, surveyed the existing models for explaining the mechanism of diffusion in solids and summarized the bearing of recent experimental results upon the acceptance or rejection of these models. C. Zener, of the University of Chicago, advanced a new model of the diffusion mechanism, "ring diffusion," based upon the simultaneous shifts in position of several atoms in the elementary cell; potential energy considerations show such a ring shift to be more probable, in many real crystals, than interchange of two atoms.

A simultaneous session consisted of 14 contributed papers on nuclear physics. The work reported included the use of microwave techniques for the isotopic analysis of nitrogen in ammonia, studies on neutron diffusion in a multiplying medium, neutron energy spectra obtained on bombarding thick targets with deuterons, neutron diffraction by some nuclei with zero spins, the use of nuclear radiations in well logging, the design of a proportional counter to indicate the radiation dosage that would be given to tissue, gyromagnetic ratio measurements for V^{51} and Mn^{55}, measurement of angular correlation between beta and gamma rays in certain decay processes, description of a scintillation counter technique for measuring half-lives of the order of seconds, measured decay schemes for Ba^{131} and Ta^{181}, and the design and test results of the magnet for the Carnegie Institute of Technology synchrocyclotron.

An invited paper session on Friday morning consisted of 35-minute discussions by B. E. Warren, Massachusetts Institute of Technology, on order and disorder in alloys, F. Seitz, University of Illinois, on the statistics of luminescent crystal counters, C. G. Shull, Oak Ridge National Laboratory, on neutron diffraction studies of ferromagnetic and antiferromagnetic substances, and P. W. Anderson, Bell Telephone Laboratories, on the theory of antiferromagnetism.

A parallel session featured contributed papers on a wide range of subjects, including theoretical studies of quantum electrodynamics and the meson mass distribution, piezoelectric effect studies, infrared investigations of diamond, silicon, and germanium, and the production of As_2S_3 glasses transparent in the infrared up to 12 microns.

Another solid-state physics session, on Friday afternoon, consisted of invited papers by H. J. Williams, Bell Telephone, on recent experimental studies of ferromagnetic domains, A. Von Hippel, MIT, on experimental aspects of ferroelectricity, J. C. Slater, MIT, on the theory of ferroelectricity, and N. Bloembergen, Harvard University, on nuclear relaxation in solids.

A second Friday afternoon session was devoted to contributed papers on electron physics and solid-state physics, including reports on electron transit time theory, secondary emission of electrons at oblique angles of incidence, characteristics of scintillation counters, luminesence of color centers in LiF, and production of color centers in quartz.

The Saturday morning symposium on beta emission included a discussion of the theory of forbidden beta ray transitions, by E. J. Konopinski, Indiana University, and a report on the measurement of forbidden beta spectra by P. R. Bell, Oak Ridge, a description of isomeric transitions in nuclei by P. Axel, University of Illinois, and a report on measurement of short-lived isomeric states by F. K. McGowan, Oak Ridge, and S. DeBenedetti, Carnegie Tech, and a talk by E. L. Fireman, Princeton University, on double beta decay.

The other Saturday morning session was devoted to 15 contributed papers on semiconductors, including discussions of the semiconductivity of graphite, electron mobilities in phosphors, the effect of surface states on the resistivity of semiconductors, an a-c circuit for rapid Hall coefficient measurement, purification of germanium by recrystallization, effects of neutron and alpha bom-

bardment of germanium, germanium *p-n* barriers as counters, the growth of germanium single crystals, the technique of cutting Ge filaments, the quantum yield of electron-hole pairs in Ge, relation of noise level to fluctuations in hole concentration in Ge, and magnetoresistance in Ge.

An over-all view of this meeting shows an intense interest in solid-state physics, particularly in investigations of the elementary semiconductors such as germanium and silicon. Entirely new developments reported in this field include the experimental discovery of directional anomalies in the magnetoresistance effect in Ge single crystals and the discovery that Ge barriers can act as counters for radiation detection. The theory of diffusion in solids was seen to be in a state of flux, characterized by the obtaining of data, from recently designed experiments, that tend to favor the "vacancy-jump" model of diffusion over the models based upon motion through interstitial positions or motion by interchange of atoms; in addition, a good case was made for a new model, "ring" diffusion, describing the motion of atoms through a solid as the result of successive rotations of rings of three, four, or more atoms within an elementary cell. Also worthy of mention as a new development is the discovery of a new group of glasses (As_2S_3) transparent in the infrared up to 12 microns.

Roy Hertz, chief of the Endocrinology Section, National Cancer Institute, and assistant clinical professor of medicine at George Washington University Medical School, Washington, D. C., will speak before the Ciba Foundation for the Promotion of International Cooperation in Chemistry and Medicine, in London, July 10. Dr. Hertz will describe experimental and clinical studies on endocrine aspects of cancer now in progress at the cancer institute and the university hospital.

Roger Conant Crafts has been appointed head of the Department of Anatomy at the University of Cincinnati College of Medicine. Dr. Crafts, who has been a member of the Department of Anatomy at Boston University School of Medicine, will succeed the late Joseph L. Schwind, who died May 21, 1948.

Louis M. Hellman has been appointed professor of obstetrics and gynecology at the College of Medicine of the State University Medical Center in New York City, effective August 1. Dr. Hellman is now associate professor of obstetrics at Johns Hopkins University.

Dale A. Porter has been appointed director of the U. S. Regional Animal Disease Research Laboratory, Auburn, Alabama, to succeed **A. H. Groth**, who resigned last September. Dr. Porter has been parasitologist at the laboratory since it was established in 1938, and has been assistant director since 1947.

John E. Dougherty has joined the staff of the Los Alamos Scientific Laboratory's Weapons Division. Dr. Dougherty has been engaged in work on the design, construction, and testing of the new synchrotron of the Engineering Research Institute at the University of Michigan.

Helen Peak, professor of psychology and head of the department at Connecticut College, has been appointed Catherine Neafie Kellogg Professor of Psychology at the University of Michigan. Dr. Peak is the first to fill this chair, for which the endowment fund was begun more than 50 years ago.

Sanborn Partridge, of Yale University, has been appointed instructor in structural geology in the Department of Geology, University of Kansas. Dr. Partridge will also be in charge of the university's new seismological station.

Visitors to U. S.

Sir Richard Southwell, rector of the Imperial College of London, will lecture at the Michelson Laboratory, Naval Ordnance Test Station, Inyokern, California, on June 13. He will speak on relaxation methods.

Hans Kopferman, professor of physics at the University of Göttingen, Germany, and at present visiting professor at Massachusetts Institute of Technology, addressed a physics symposium at Princeton University last month.

Recent visitors at the National Bureau of Standards were **L. R. Hällebo**, development engineer, Air Board, Royal Swedish Air Force, Stockholm; **P. L. Larger** and **M. A. Tenant de la Tour**, engineers with the Chambre Syndicale des Fabricants de Tubes d'Acier, Paris; **W. E. K. Middleton**, National Research Council of Canada; **Y. Nayudamma**, chemist with the Government of Madras, India; **W. Six**, chief engineer of the Philips-Eindhoven Research Laboratories; **J. M. Unk**, of the same firm, and professor at Technische Hogeschool, Delft, Holland; **Bjarne Bassoe**, secretary general, Norwegian Society of Civil Engineers, Oslo; **V. D. Burgmann**, officer in charge of wool textiles, Australian Commonwealth Scientific and Industrial Research Organization, Sydney; **G. Goudswaard**, director of the permanent office of the International Statistical Institute, The Hague; **R. D. Neale**, professor of electrical engineering, Canterbury University College, Christchurch, New Zealand; **A. Parker**, director, Fuel Research Center, Department of Scientific and Industrial Research, London; **O. G. Sutton**, head, Department of Mathematics and Physics, Military College of Science, Swindon, England; and **W. J. Van Dalfsen**, head, Fiber Research Institute, Endschede, Holland.

César Gómez, former director of the National Hygiene Institute in Bogota, Colombia, is in the U. S. visiting medical laboratories.

Grants and Awards

The Biochemistry Branch, Biological Sciences Division, of the Office of Naval Research recently announced the following contracts: University of Indiana, *W. J. van Wagtendonk*, nutrition, serology, and genetics of *Paramecium aurelia*;

Fordham University, *F. F. Nord,* the conversion of carbohydrates to fats by pigments in molds; College of Puget Sound, *R. D. Sprenger,* isochroman chemistry; Cornell University, *H. A. Scheraga,* flow birefringence in macromolecules; University of Detroit, *E. B. Gerheim,* serum proenzyme; University of Cincinnati, *J. H. Howard,* proline and hydroxyproline; Western Reserve University, *A. M. Potts,* methanol metabolism and visual enzymes; Creighton University, *H. C. Struck,* methylene blue and mammalian erythrocytes; University of Utah, *L. T. Samuels,* synthesis of hormones and enzymes in the mammalian body; Loyola University at Chicago, *M. B. Williamson,* amino acids in wound healing; Harvard University, *Paul Doty,* protein interactions; University of California, *E. A. Adelberg,* the synthesis of isoleucine, valine, and threonine.

Melvin DeGroote, vice president of the Tretolite Company, manufacturing chemists of St. Louis, Missouri, received the **Ohio State University's Lamme Medal** on June 9. The award is given annually to a graduate in recognition of achievement in engineering or technical arts.

The 1950 Progress Medal of the Photographic Society of America has been awarded to Loyd A. Jones, head of Kodak Research Laboratories' Physics Department. The award, instituted in 1948, is made annually for outstanding contributions to photographic science and practice.

Colleges and Universities

The University of North Carolina officially opened its new $175,000 Venereal Disease Experimental Laboratory at Chapel Hill on May 16. The laboratory, which was begun two years ago, was built with the cooperation of the State Board of Health and the U. S. Public Health Service. An attempt to produce a vaccine for immunization against venereal disease will be one of the projects of the laboratory.

Carnegie Institute of Technology has established a new professorship in chemistry, made possible by a grant of $15,000 a year by the Gulf Oil Corporation. The new chair will be named for Benjamin Silliman, pioneer in the chemistry of petroleum refining, and will be occupied by Frederick D. Rossini, chief of the Thermochemistry and Hydrocarbons Section, National Bureau of Standards, who will join the faculty as head of the Chemistry Department on July 1.

A research institute for the study of alcoholism, physical rehabilitation, and chronic diseases has been established at the **University of Buffalo** by a tripartite arrangement of the U. S. Public Health Service, the Illinois State Health Department, and the university. The institute will be operated by the university's Medical School, aided by funds provided by the state health department. An amount not to exceed $200,000 has been provided for the current year, beginning April 1, 1950. Buildings in Buffalo have been provided by the U. S. Public Health Service.

The University of Minnesota's Department of Geology has been granted a bequest of approximately $18,000 from the estate of Junior Hayden, Minneapolis naturalist. The fund will be used mainly to promote general education in the earth sciences. During the past two years Mr. Hayden had contributed nearly 2,000 Kodachrome slides of geologic subjects to the department.

Summer Programs

The Institute for Teachers of Mathematics, sponsored by the Association of Teachers of Mathematics in New England, will be held at Tufts College, Medford, Massachusetts, August 22–29. The program will include lectures on the latest developments in pure mathematics and the applications of mathematics. Further information may be obtained from Janet S. Height, Wakefield High School, Wakefield, Massachusetts.

The second annual Oak Ridge summer symposium, devoted this year to quantum and inorganic chemistry, will be held August 21–31, under the joint sponsorship of Oak Ridge National Laboratory and Oak Ridge Institute of Nuclear Studies. The principal speakers will be Peter Debye, Cornell University; Henry Eyring, University of Utah; Herbert S. Harned, Yale University; Linus C. Pauling, California Institute of Technology; and George Scatchard, Massachusetts Institute of Technology. There will be no admission fee. Additional information may be obtained from the University Relations Division, Oak Ridge Institute of Nuclear Studies, P. O. Box 117, Oak Ridge, Tennessee.

Meetings and Elections

The 27th Annual Plant Science Seminar will be held at the Massachusetts College of Pharmacy, Boston, Massachusetts, August 24–30. Members desiring to present papers may write to either Dr. Heber W. Youngken, Sr., Local Secretary, or Dr. Maynard W. Quimby, Chairman, Massachusetts College of Pharmacy, Boston 15.

The American Oil Chemists' Society elected the following officers for 1950–51: president, John R. Mays, Jr., Barrow-Agee Laboratories, Inc., Memphis; vice president, A. E. Bailey, Girdler Corporation, Louisville, Kentucky; secretary, H. L. Roschen, Swift and Company, Chicago; and treasurer, J. J. Vollertsen, retired from Armour and Company, Chicago.

The American Society for Pharmacology and Experimental Therapeutics elected the following officers at its meeting in Atlantic City, April 17–21: president, Carl F. Schmidt, University of Pennsylvania; vice president, McKeen Cattell, Cornell University Medical College; secretary, Harvey B. Haag, Medical College of Virginia; and treasurer, K. K. Chen, Lilly Research Laboratories.

The Population Association of America elected the following officers at its annual meeting at Princeton, April 29 and 30: president, Philip M. Hauser, Department of Sociology, University of Chicago; first vice president, Dorothy Thomas, Wharton School, University of Penn-

sylvania; second vice president, Margaret Hagood, Division of Farm Population and Rural Life, Bureau of Agricultural Economics, Washington, D. C.; treasurer, John Durand, Social Affairs Department, United Nations, Lake Success; and secretary, Henry Shryock, U. S. Bureau of Census, Washington, D. C.

The American Physiological Society, at its annual meeting in Atlantic City, April 17–21, elected H. C. Bazett, of the University of Pennsylvania, president of the society for 1950–51. Others elected to office were: president elect, D. B. Dill, Army Chemical Center, Maryland; councilors, E. F. Adolph, University of Rochester, and F. A. Hitchcock, Ohio State University; secretary-treasurer, R. W. Gerard, of the University of Chicago.

Deaths

Raymond C. Benner, 68, died April 20 while attending the Electrochemical Society convention in Cleveland, Ohio. Dr. Benner had served as consultant engineer for several government agencies, including the Office of Naval Research, following his retirement in 1945 as director of research for the Carborundum Company, Niagara Falls, New York. He held more than 250 patents in the fields of abrasives, refractories, electricity, chemistry, mining, and mechanics.

Howard S. Reed, professor emeritus of plant physiology at the University of California at Berkeley, died May 12 of a heart attack. He was 73 years old. Dr. Reed became a member of the university of California faculty in 1915 and retired in 1946. He was an authority on the history of plant sciences, including pre-Columbian botany.

Helmut L. Bradt, 32, professor of physics at the University of Rochester, died May 24 at Brooklyn, New York, following a lung operation. In collaboration with Bernard Peters and Morton F. Kaplan, of Rochester, Dr. Bradt had recorded photographic evidence in January of a new atomic particle, the neutral meson. He had been appointed associate professor of physics at Stanford University, California, effective this month.

Geochemica Acta, a new international journal devoted to the chemistry of the earth and the cosmos, is soon to be published in London by Butterworth-Springer, Ltd. F. Earl Ingerson, chief of the Geochemistry and Petrology Branch of the Geological Survey, will serve as American editor of the journal. European editors will be F. A. Paneth, Durham, S. R. Nockolds, Cambridge, L. R. Wager, Durham, for England; F. E. Wickman, Stockholm, for the Scandinavian countries; C. W. Correns, Göttingen, for the German-speaking countries. Papers on geochemistry and cosmochemistry will be published in English, French, or German, with English summaries.

The Fan Memorial Institute of Biology, Peiping, China, has been incorporated with the botanical institutes of Academia Sinica and the National Academy of Peiping to form a new Institute of Plant Taxonomy, located in the Botanical Institute of the National Academy of Peiping. Dr. Hsien-hsu Hu, of the institute, has established a separate laboratory at 22 Shi-h Fu Ma Ta Chieh, West City, Peiping, China.

A bibliography on cortisone and ACTH, prepared by the New York Academy of Medicine, is available to physicians on request from Janet Doe, Librarian, New York Academy of Medicine, 2 East 103rd Street, New York City.

Two of the nine sections of *A Glossary of Terms in Nuclear Science and Technology,* being prepared by committees under the general sponsorship of the National Research Council's Glossary Conference, have been published in preliminary edition for criticism by workers in the field. The available sections are on chemical engineering, biophysics, and radiobiology. Other sections in preparation are on general terms, reactor theory, reactor engineering, chemistry, instrumentation, isotope separation, and metallurgy. The *Glossary* will be published in one volume after the trial period. The published sections, priced at 60 cents each, may be obtained from the publisher, The American Society of Mechanical Engineers, 29 West 39th Street, New York City.

An advisory committee in biology, the third of several committees planned to provide advisory services to the Office of Naval Research on research proposals, has been established in the American Institute of Biological Sciences of the National Research Council. Members of the new committee are: chairman, Max Kleiber, professor of animal husbandry, University of California; H. B. Steinbach, professor of zoology, University of Minnesota; A. W. Martin, head of the Department of Zoology, University of Washington; Victor Twitty, head, Department of Biological Sciences, Stanford University; Froelich Rainey, director of the University Museum, University of Pennsylvania; Marston Bates, Rockefeller Foundation; Daniel Merriman, director, Bingham Oceanographic Laboratory, Yale University; and Theodore Jahn, head of the Department of Zoology, University of California at Los Angeles.

Make Plans for—

American Institute of Electrical Engineers, summer and Pacific general meeting, June 12–16, Huntington Hotel, Pasadena, California.

American Malacological Union, June 14–16, Chicago Natural History Museum, Chicago.

Conference on Terramycin, Section of Biology, New York Academy of Sciences, June 16–17, Barbizon-Plaza Hotel, 101 West 58th Street at Sixth Avenue, New York City.

American Astronomical Society, 83rd meeting, June 18–21, Kirkwood Observatory, Bloomington, Indiana.

American Society of Heating and Ventilating Engineers, June 19–21, Lake Muskoka, Ontario.

Chemical Institute of Canada, annual meeting, June 19–22, Royal York Hotel, Toronto.

American Society of Mechanical Engineers, semiannual meeting, June 19–23, Hotel Statler, St. Louis, Missouri.