

has been elected president of the American Chemical Society for 1939.

Dr. Kraus will take office as president-elect on January 1, 1938, at which time Dean Frank C. Whitmore, of the Pennsylvania State College, becomes president of the society, succeeding Dr. E. R. Weidlein, director of the Mellon Institute of Industrial Research, Pittsburgh. Dean Whitmore has been president-elect during the past year. The new president-elect was chosen by the council from four nominees receiving the largest number of votes in a national poll by mail of the members. Three directors and four councilors were also elected by mail ballot. They are:

#### *Directors*

Dr. Erle M. Billings, of the Eastman Kodak Company, Rochester, N. Y., reelected from the second district, comprising New York and New Jersey.

Professor Hobart H. Willard, of the University of Mich-

igan, reelected from the fifth district, comprising Illinois, Indiana, Michigan and Wisconsin.

Dr. Gustavus J. Esselen, president of Gustavus J. Esselen, Inc., Boston, Mass., reelected director at large.

#### *Councilors at Large*

Dr. William Mansfield Clark, De Lamar Professor of Physiological Chemistry in the Johns Hopkins School of Medicine and holder of the Nichols Medal for his achievements in the fields of oxidation and reduction equilibria, hydrogen-ion concentration and indicators.

Dr. Arno C. Fieldner, chief engineer of the Experiment Stations Division of the United States Bureau of Mines, Washington, D. C., authority on fuels and designer of the ventilating system of the Holland Vehicular Tunnel under the Hudson River.

Professor B. Smith Hopkins, of the University of Illinois, discoverer of illinium, an element of the rare earths group.

Dr. Albert S. Richardson, director of chemical research of Procter and Gamble Company, Cincinnati, and outstanding scientist of the detergent industry.

## SCIENTIFIC NOTES AND NEWS

AN authorized life of Lord Rutherford of Nelson is being prepared by Professor A. S. Eve. He requests that those having letters written by Lord Rutherford that might be of use forward them to him at 26 Willow Road, Hampstead, N.W.3.

THE Nobel prizes in physics, chemistry, physiology and medicine and literature were presented at a ceremony held at Stockholm on November 11 by King Gustav of Sweden. Brief addresses were given by Swedish scientific men describing the work of the recipients. All those who had been awarded prizes were present, with the exception of Professor G. P. Thomson, who was kept away by illness.

DR. GANO DUNN, president of the J. G. White Engineering Corporation of New York for twenty-four years, has been awarded the Thomas A. Edison Medal of the American Institute of Electrical Engineers for 1937. The award is made "for distinguished contributions in extending the science and art of electrical engineering, in the development of great engineering works and for inspiring leadership in the profession." The presentation ceremony will be held on January 26 in connection with the annual four-day winter convention of the institute in the Engineering Societies Building, New York City.

THE Institute of Aeronautical Sciences, New York City, observed on December 17 the thirty-fourth anniversary of the first airplane flight by Orville and Wilbur Wright at Kitty Hawk, N. C. Mr. Orville Wright was present at a meeting at Columbia University when the first annual "Wright Brothers Lecture" was given by Professor B. Melvill Jones, of the Uni-

versity of Cambridge. Mr. Wright also attended an "Honors Night" program at the Hotel Biltmore. The Army Aviation Corps observed the anniversary of the first flight when thirty-one planes took off from Mitchel Field as a tribute. The honorary fellowship of the institute was awarded to Dr. Hugo Eckener at a dinner in the Hotel Biltmore. Commander Charles E. Rosendahl accepted the award for Dr. Eckener.

EASTMAN N. JACOBS, aeronautical engineer of the National Advisory Committee for Aeronautics, has received from the Institute of Aeronautical Sciences the Sylvanus Albert Reed award for his work in improving the efficiency of airplane wing sections. The award includes a certificate and a prize of \$250.

A GOLD Congressional Medal was presented by President Roosevelt on December 16 to Lieutenant Commander Lincoln Ellsworth in recognition of his Antarctic flight in 1935, during which he claimed 350,000 square miles of territory on behalf of the United States.

A SURPRISE tea in honor of the twenty-fifth anniversary of Dr. T. Wingate Todd as professor of anatomy at the Medical School of Western Reserve University, was given on the afternoon of December 15 by the staff of the laboratory of anatomy. Five hundred leading citizens of Cleveland were present. Before the tea he was presented with etchings and books. Dr. J. E. Hallisy, senior clinical instructor in surgery and anatomy, one of Dr. Todd's earliest students, made the presentation.

EDWARD A. JOHNSTON, vice-president in charge of

engineering and patents of the International Harvester Company, has been elected by the jury of awards of the American Society of Agricultural Engineers as the recipient of the Cyrus Hall McCormick medal for 1938 "for exceptional and meritorious engineering achievement in agriculture."

THE Jackson Dawson memorial medal of the Massachusetts Horticultural Society, for work in the breeding and propagation of woody plants, has been awarded to Dr. Joel E. Spingarn, of New York.

THE council of the Royal Meteorological Society has awarded the Symons gold medal for 1938 to Dr. G. M. B. Dobson, reader in meteorology in the University of Oxford. The medal, which is awarded biennially for distinguished work in connection with meteorological science, will be presented at the annual general meeting of the society on January 19.

THE council of the British Institution of Mining Engineers has awarded the medal of the institution to Dr. Carl Beyling, director of the experimental station at Dortmund-Derne, Germany, in recognition of his services in the application of scientific knowledge and research to industry, with special reference to safety and health problems in coal mining, and to Dr. Richard Vernon Wheeler, in recognition of his services with special reference to problems of safety and health in coal mining and of the utilization of coal. The presentation of the medals will take place at the annual dinner of the institution at Grosvenor House, London, on February 2, at which the German Ambassador will be the guest of honor.

*The British Medical Journal* reports that on the occasion of the eightieth birthday of Professor Bernhard Nocht, founder of the Institute of Tropical Medicine in Hamburg, medals were awarded to the following in recognition of their services to tropical medicine: Drs. Rodhain, Belgium; Brumpt and Fourneau, France; E. Martini and E. Reichenow, Germany; P. Manson-Bahr and the late G. H. F. Nuttall, Great Britain; Snijders and Swellengrebel, Holland; Bastianelli and Castellani, Italy.

SIR JAMES CRICHTON-BROWNE, M.D., F.R.S., London, celebrated his ninety-seventh birthday on November 29.

DR. RAYMOND FREAS, professor in the School of Medicine at Tulane University, was elected president of the Louisiana Section of the American Chemical Society at the New Orleans meeting. He succeeds James J. Ganucheau. F. A. Irvine was elected vice-president.

THE Columbia Chapter of Sigma Xi has elected the following officers to serve from June 1, 1937, to May 31, 1939: *President*, Professor Harold W. Webb;

*Vice-president*, Professor Arthur W. Thomas; *Secretary-Treasurer*, Professor Dana P. Mitchell.

DR. MARVIN C. ROGERS, now chemical engineer in the research laboratory of the Standard Oil Company at Whiting, Ind., has been appointed assistant professor of chemical engineering at the University of Minnesota. At present he is giving a course in the refining of petroleum at the Armour Institute, Chicago.

DR. CHARLES PACKARD, of the Institute of Cancer Research, Columbia University, has been appointed assistant director of the Marine Biological Laboratory, his term of service to begin in January. For the past eleven years, Dr. Merkel H. Jacobs, of the University of Pennsylvania, has served as director of the laboratory, but at the meeting of the trustees last August, he resigned this position to devote his time more fully to research work. The laboratory had an assistant director from the time of its foundation up to the year 1925, when the assistant director, Dr. Gilman A. Drew, resigned; at that time Dr. Jacobs was appointed director, and the place of assistant director has remained vacant.

DR. ARTHUR J. EAMES, professor of botany at Cornell University, is spending this term at the University of Hawaii, his place being assumed by D. M. Weller, who has taught botany at the University of Hawaii for twenty years.

PROFESSOR S. W. PERROTT, who recently retired from the chair of civil engineering at the University of Liverpool, will go to India as lecturer on civil engineering at the Technical College at Ceylon.

E. HARRISON, director of agriculture for Tanganyika, has been appointed professor of agriculture at the Imperial College of Tropical Agriculture, Trinidad.

DR. WILDER PENFIELD, of Montreal, director of the Neurological Institute and professor of neurosurgery at McGill University, will give the fifth E. Starr Judd lecture at the University of Minnesota, on February 2. His subject will be "Cerebral Circulation in Epilepsy." The lectureship was established by the late E. Starr Judd, an alumnus of the Medical School of the University of Minnesota.

DR. E. V. MCCOLLUM, professor of biochemistry at the Johns Hopkins University, gave the Phi Beta Kappa address at Indiana University on December 15. He reviewed present knowledge of the essential nutrients which an adequate diet must provide.

DR. LAURENCE H. SNYDER, of the Ohio State University, addressed the Michigan State College chapter of

Sigma Xi on December 1. His topic was "Heredity and Modern Life."

A WIRELESS dispatch from Moscow to *The New York Times* reports that machinations of "enemies of the people" in the field of astronomy were alleged on December 16 in connection with a meeting of the director of the Academy of Sciences in session in Moscow. As a result Academician V. G. Fesenkoff was summarily relieved of his duties as chairman of the Astronomical Council—a department of the academy—then the council itself was abolished by vote of the academy directors, and its work was turned over to a newly created group under the chairmanship of Professor S. I. Beliaevsky. This group was ordered to present a detailed program for astronomical work by January 1. In press reports the council was accused of general inactivity and specifically of inexcusable procrastination in selecting a site for an observatory in the South. Professor Fesenkoff was accused of delivering a vague report of the council's activities, glossing over wrecking done by "enemies of the people."

A ZONING conference was held in Chicago on December 13 and 14 under the auspices of the National Resources Committee. Representatives from every state and from numerous city and county planning groups attended. An entire session of the conference was devoted to a discussion of rural zoning and better land uses, including problems of soil conservation districts, public lands, grazing, roadsides, taxation and forestry. M. L. Wilson, Under Secretary of Agriculture, presided at this session. Flood plain zoning was discussed by Professor H. H. Barrows, of the University of Chicago, and by Abel Wolman, chairman of the Maryland State Planning Board. In general and urban fields the discussions were conducted by Frederic A. Delano and Charles W. Eliot, 2d, of the National Resources Committee, and Dr. Charles E. Merriam, of the University of Chicago. The findings of the conference were summarized at the final session.

*Popular Astronomy* reports that definite plans have been made for conducting a party of German scientific men on a tour to the United States next summer. The party plans to leave Hamburg on the *Deutschland* on June 30. Fourteen days will be spent in visiting places of interest, including Harvard Observatory, the U. S. Naval Observatory, the Yerkes Observatory, the Bausch and Lomb Optical Works, the Eastman Kodak Company Plant, the Bureau of Standards, the American Museum of Natural History, the Franklin Institute and the large cities directly or indirectly connected with such a tour.

UNDER the terms of the will of the late Francis F. Prentiss, industrialist and philanthropist of Cleveland,

a considerable payment of accumulated income has recently been received by the trustees of the Case School of Applied Science, Cleveland, Ohio, and the distribution of the principal is being worked out. After certain specific bequests have been paid, the Case School of Applied Science will receive one tenth of the residue, the ultimate benefits to the school being now estimated at upwards of \$600,000. A dividend has been distributed to the professors covering the salary deductions of the last six months. Because of the uncertainty of future income, the trustees have not yet felt able to restore the monthly salaries to the normal scale, but it is hoped that additional dividends may be distributed from time to time.

THE gift by the Anaconda Copper Mining Company to the Montana State University of approximately twenty thousand acres of land not far from Missoula equips the Experiment Station of the university with the most extensive forest holdings of any School of Forestry in the United States and makes possible practical laboratory studies of forest land resources, growth and utilization of timber, lumbering and milling operations, methods of timber production, relationships between forests and water conservation and water flow regulation, between forests and pasturage for domestic livestock and wild life, and related botanical and zoological problems.

BOSTON UNIVERSITY SCHOOL OF MEDICINE has received as a gift from Dr. and Mrs. J. Emmons Briggs their Beacon Street home and other property, the total value of which is said to be \$100,000. Dr. Briggs, a Boston surgeon, who graduated from the Boston University School of Medicine in 1890, was professor of surgery there from 1918 until his retirement. He is a trustee of the university and a fellow of the American College of Surgeons.

PROFESSOR JAMES KENDALL, of the University of Edinburgh, has presented the American Chemical Society with the sum of one thousand dollars to continue the American Chemical Society Award in Pure Chemistry for the year 1938. Nominations should be in the hands of the secretary, Dr. Charles L. Parsons, prior to February 5, together with supporting documents as outlined in the rules for the award, which will be found printed, together with Professor Kendall's offer, in the News Edition of *Industrial and Engineering Chemistry* for December 10. The conditions of the award are as heretofore with the exception that the age limit has been increased to thirty-five years and the time for the receipt of nominations extended from January 5 to February 5, 1938.

THE Commonwealth Fund has made a grant of \$10,857 annually for a three-year period to the School of Medicine of Western Reserve University for a re-

search on chronic nephritis by Dr. Joseph M. Hayman, Jr., associate professor of medicine.

THERE will be available for the sixteenth International Physiological Congress, to be held in Zurich from August 14 to 18, 1938, several fellowships of \$250 each to be awarded by the Committee on International Congresses of the Federation of American Societies for Experimental Biology on the nomination of the councils of the constituent societies of the federation. Applications for these awards should be made to one of the following before January 5, 1938: Dr. A. C. Ivy, secretary, the American Physiological Society, 303 East Chicago Avenue, Chicago, Ill.; Dr. H. A. Mattill, secretary of the American Society of Biological Chemists, State University of Iowa, Iowa City; Dr. G. Philip Grabfield, secretary of the American Society for Pharmacology and Experimental Therapeutics, Harvard Medical School; Dr. Paul R. Cannon, secretary of the American Society for Experimental Pathology, University of Chicago. The awards are subject to the following conditions: Applicants must be under thirty-five years of age and must not have attained university rank above that of assistant professor; each applicant must present the draft of a meritorious paper which he agrees to present to the congress if he receives a fellowship. Applications must be made to the secretary of the society which includes the field of study; applicants need not be members of the federation. Dr. D. R. Hooker, of the Johns Hopkins University, is secretary of the federation.

THE Sigma Xi Committee on Grants-in-Aid, of which W. R. Whitney, Harlow Shapley and Gary N. Calkins are the members, have made the following

grants: Professor Alan Arthur Boyden, Rutgers University, \$150 for the serological study of the relationship of Crustacea. Professor Leopold Raymond Cerecedo, Fordham University, \$250 for the development of a 2-day test for the bio-assay of antineuritic concentrates in mice. Professor Forrest F. Cleveland and Professor M. J. Murray, Lynchburg College, \$300 for the Raman effect and molecular structure. Professor Maurice Ewing, Lehigh University, \$200 for the geophysical investigations of oceanic basins. Professor George William Hunter, III, Wesleyan University, \$250 for studies of the reaction of the host to the penetration of larval parasites. Professor Louallen F. Miller, University of Minnesota, \$250 for a study of solar radiation by spherical absorber. Edgar J. Murphy, College of the City of New York, \$150 for a study of measurement of x-rays and gamma rays. Professor Jens Rud Nielsen, University of Oklahoma, \$200 for a study of Raman spectra and structure of simple polyatomic molecules. Aaron John Sharp, University of Tennessee, \$250 for a study of types and distribution of certain bryophytes and spermatophytes.

A DAVID ANDERSON-BERRY GOLD MEDAL, together with a sum of money amounting to about £100, will be awarded in July, 1938, by the Royal Society of Edinburgh to the person who, in the opinion of the council, has recently produced the best work on the nature of x-rays in their therapeutical effect on human diseases. A similar award will be made every three years. Applications may be based on both published and unpublished work. They should be in the hands of the general secretary, Royal Society of Edinburgh, 22 George Street, Edinburgh, 2, by June 1.

## DISCUSSION

### EFFECTS OF HEAVY WATER ON LIVING CELLS

IN SCIENCE for November 26, under the title "Osmotic Effects of Deuterium Oxide (Heavy Water) on Living Cells," Professor S. C. Brooks reports very interesting experiments which seem to illustrate in living cells the osmotic effect of deuterium oxide deducible from its low vapor pressure. The temporary shrinkage of leaves in deuterium oxide and the hemolysis of D<sub>2</sub>O-containing red blood cells when exposed to pure H<sub>2</sub>O-salt solution are described. These facts are satisfying corollaries to the lower permeability of erythrocytes to D<sub>2</sub>O recently reported independently by both Brooks and Parpart.

In his last paragraph, however, Professor Brooks attempts to illustrate his thesis from the mammalian world by unfortunate examples. Really pure heavy water elicits in mice neither evidences of "thirst" nor

"symptoms of distress." In man it produces no "burning sensation" but rather seems to exhibit to some people mild and varying differences in taste from ordinary water.<sup>1</sup>

These contradictions are made advisedly, after nearly three years' experience<sup>2</sup> in the field. Our results have afforded better illustrations of the point made by Professor Brooks. In this laboratory we have, for example, demonstrated in mice that pure heavy water administration causes, on the first day after it is used to replace ordinary water, a definite shift in the water balance to the positive side. This was shown by complete water determinations confirmed by determinations of body weight.<sup>3</sup> A paper now in press<sup>4</sup> illus-

<sup>1</sup> K. Hansen, *Klin. Wochenschr.*, 14: 1489, 1935.

<sup>2</sup> H. G. Barbour, *Yale Jour. Biol. and Med.*, 9: 551, 1937.

<sup>3</sup> H. G. Barbour and Jane Trace, *Jour. Pharm. and Exp. Therap.*, 58: 460, 1936.