

the society which was merged with the American Association of Cereal Chemists in 1923, and played a conspicuous rôle in the federated society. When in 1923 it was decided to establish a new scientific journal, *Cereal Chemistry*, as the official publication of the society, Dr. Bailey was selected as editor-in-chief and he served this publication in that capacity during the period 1924 to 1931.

Dr. Bailey is the author of more than a hundred bulletins and papers published in scientific journals. These papers range in content over the entire field of cereal chemistry, including fundamental studies in grain storage, grain grading, milling, the storage of milled products, the evaluation of quality of flours, the process of dough fermentation, the effect of individual constituents in the dough batch, physico-chemical factors in flour and bread manufacture, the baking test, including both the test loaf and its commercial applications, the storage of baked products, rancidity of fats and oils used in baked products, and methods of analysis of cereals and cereal products.

THE AMERICAN PHILOSOPHICAL SOCIETY

At the annual meeting of the American Philosophical Society, held in Philadelphia on April 21, 22 and 23, the following members were elected:

- Dr. Edward Goodrich Acheson, chemist, St. Petersburg, Florida, formerly president of the Electro-chemical Society.
- Dr. Edward Cooke Armstrong, professor of French, Princeton University.
- M. Gilbert Chinard, Department of French Literature, the Johns Hopkins University.
- Dr. Ralph Erskine Cleland, professor of biology, Goucher College.
- Dr. Arthur J. Dempster, professor of physics, University of Chicago.
- Dr. Arnold Dresden, professor of mathematics, Swarthmore College.
- Dr. Herbert Fox, professor of comparative pathology, University of Pennsylvania.
- Dr. Edwin Francis Gay, professor of economic history, Harvard University.
- Dr. George Lincoln Hendrickson, professor of Greek and Latin literature, Yale University.
- Dr. Edwin Walter Kemmerer, professor of international finance, Princeton University.
- Dr. Thomas William Lamont, New York.

- Dr. Arthur Oncken Lovejoy, professor of philosophy, the Johns Hopkins University.
- Dr. Elmer Drew Merrill, director of the New York Botanical Garden.
- Dr. John Raymond Murlin, professor of physiology and director of department of vital economics, University of Rochester Medical School.
- Dr. Charles P. Olivier, professor of astronomy and director of the Flower Observatory, University of Pennsylvania.
- Dr. Ernest Minor Patterson, professor of economics, Wharton School of Finance and Commerce, University of Pennsylvania.
- Dr. Henry A. Sanders, professor of Latin, University of Michigan.
- Dr. Jacob Richard Schramm, editor-in-chief of *Biological Abstracts*.
- Dr. Charles P. Smyth, associate professor of chemistry, Princeton University.
- Dr. Edward Lee Thorndike, professor of psychology and director of the division of psychology, Institute of Educational Research, Teachers College, Columbia University.
- Dr. Richard Chace Tolman, professor of mathematical physics, California Institute of Technology.
- Dr. Henry Van Peters Wilson, Kenan professor of zoology, University of North Carolina.
- Dr. Sewall Wright, professor of zoology, University of Chicago.

Foreign members elected were:

- Ramon y Cajal, Madrid.
- Dr. William H. Collins, Canada.
- Professor David Hilbert, Göttingen.
- M. Emmanuel de Margerie, Paris.
- Dr. Ivan Pavlov, Leningrad.

Mr. Roland S. Morris, formerly United States Ambassador to Japan and member of the Philadelphia bar, was elected president. He succeeds Professor Henry Norris Russell, of Princeton University. Dr. James H. Breasted, Dr. Elihu Thomson and Dr. Edwin G. Conklin are the vice-presidents; Dr. Arthur W. Goodspeed and Dr. John A. Miller, secretaries; Dr. Albert P. Brubaker, curator, and Dr. Eli Kirk Price, treasurer. Dr. Cyrus Adler, Dr. Henry H. Donaldson, Dr. Herbert S. Jennings, Mr. William L. Phelps and Dr. Heber D. Curtis were elected members of the council.

SCIENTIFIC NOTES AND NEWS

DR. PHOEBUS A. LEVENE, member of the Rockefeller Institute for Medical Research, has been elected a member of the Deutsche Akademie der Naturforscher zu Halle, on the occasion of the celebration of the centenary of the death of Wolfgang von Goethe.

DR. J. C. TH. UPHOF, head of the department of biology and professor of botany at Rollins College, was recently elected a corresponding member of the Bulgarian Botanical Society and of the Royal Netherlands Agricultural Society.

DR. DUKINFELD H. SCOTT, the British paleobot-

anist, has been elected a member of the Prussian Academy of Sciences.

M. C. CANTACUZENE, of Bucharest, and M. Emile Guyénot, of Geneva, have been elected corresponding members of the Paris Academy of Sciences in the section of anatomy and zoology.

PROFESSOR G. ELLIOT SMITH, professor of anatomy in University College, London, has been given the honorary degree of M.D. by the Egyptian University, Cairo, on the occasion of its first convocation, held on February 27. Professor Elliot Smith was at one time professor of anatomy in the Government Medical School, Cairo.

DR. WILLIAM LAWRENCE BRAGG, professor of physics at the Victoria University of Manchester, has been elected a member of the Athenæum, London, under a provision which empowers the annual election by the committee of a certain number of persons of distinguished eminence in science, literature, the arts or for public service.

THE presentation of the Faraday Medal of the British Institution of Electrical Engineers was made to Sir Oliver Lodge at a meeting of the institution on April 23. On this occasion Sir W. E. Sumpner delivered the twenty-third Kelvin Lecture on "The Work of Oliver Heaviside."

THE Messel Medal of the British Society of Chemical Industry has been awarded to Sir William Pope, professor of chemistry and director of the chemical laboratories at the University of Cambridge.

THE British Dyers' Company Gold Research Medal for the period 1930-31 has been awarded to Professor F. M. Rowe, head of the department of color chemistry and dyeing at Leeds University, for a series of three papers on the chemical and physical effects of kier boiling on insoluble azo colors on the fiber. This is the third occasion on which Dr. Rowe has received this medal.

DR. ALFRED COX, the medical secretary of the British Medical Association, will retire this year, after having held his office for twenty years. To mark their appreciation of his services, the members have raised a testimonial fund, out of which the association has been provided with an oil painting of Dr. Cox, by Sir Arthur Cope, R.A. Dr. Cox will receive a book containing the names of the subscribers, and a check. The portrait is now at the Royal Academy.

DR. ROBERT G. AITKEN, director of the Lick Observatory of the University of California at Mount Hamilton, with Mrs. Aitken, is now on his way to England where he will receive next month the gold medal of the Royal Astronomical Society.

DR. EARLE R. HEDRICK, professor of mathematics and chairman of the department of mathematics at the University of California at Los Angeles, has been named by the French government as "Officier d'Académie" "for services rendered to the cause of culture and science."

DR. ROBERT TAFT, professor of chemistry at the University of Kansas, was elected president of the Kansas Academy of Science at its recent meeting at McPherson College.

M. LOUIS MANGIN, who recently retired as director of the Museum of Natural History, Paris, and as professor of cryptogamic botany, has been elected honorary director.

DR. DENNETT L. RICHARDSON has been elected superintendent of health at Providence, Rhode Island, to succeed Dr. Charles V. Chapin, who recently retired after forty-eight years' service. Dr. Richardson is superintendent of the Providence City Hospital, the name of which has been changed to the Charles V. Chapin Hospital.

AT a meeting of the Connecticut State Dental Association, March 30, Dr. Milton C. Winternitz, dean of the Yale University School of Medicine, New Haven, was presented with the Newell Sills Jenkins Memorial Medal for meritorious service to the dental profession. The medal is awarded each year to the person who has made a notable contribution to dentistry, science or humanity. It has been awarded annually since 1922.

DR. E. L. NIXON, professor of plant pathology at the Pennsylvania State College, has been given the award of the Philadelphia Society for Promoting Agriculture "in recognition of his outstanding achievement in making practical, and within reach of all, a method whereby the production per acre of potatoes has been so remarkably increased, thereby conferring upon his fellow citizens of this and other states, who may be interested in this industry, a benefit of great and lasting value."

DR. W. REID BLAIR, director of the New York Zoological Park, was the guest of honor on April 15 at a dinner given by the employees of the park in celebration of his thirtieth anniversary as an official at the park. Dr. Claude Leister, curator of educational activities, presided. Mr. Cyril J. Newman, representing the employees, presented to Dr. Blair a gold watch engraved with his record of service in the park.

DR. THOMAS S. ROBERTS, professor of ornithology and director of the Museum of Natural History at the University of Minnesota, recently completed his work on "The Birds of Minnesota." Publication of the work has been made possible through the estab-

lishment of the Thomas S. Roberts fund by citizens of Minneapolis. Proceeds from the sale of the book will become a permanent trust fund for the Museum of Natural History, of which Dr. Roberts has been head for the past seventeen years.

DR. PETER HERVY BUCK, of Honolulu, has been appointed Bishop Museum visiting professor of anthropology. He will give instruction next year at Yale University and direct research in the problems of the Pacific area under the terms of the agreement by which Yale and the Bishop Museum of Honolulu are affiliated.

PROFESSOR C. K. INGOLD, professor of organic chemistry at the University of London, is visiting Stanford University for the spring quarter. He is giving a course of lectures on "Organic Reactions," which are being considered from an electrochemical viewpoint based on the electronic theory of valency.

PROFESSOR GEORGE F. BATEMAN has been appointed acting dean of engineering at Cooper Union, New York City. He succeeds the late Dean Francis M. Hartmann, who died recently after thirty years of service on the engineering faculty. Assistant Professor Norman L. Towle has been promoted to a full professorship in charge of the department of electrical engineering.

PROMOTIONS to professorships in the University of California include S. B. Freeborn, in entomology; Tracy I. Storer, in zoology; H. S. Smith, in entomology; R. B. Brode, in physics; and in the Medical School, San Francisco, F. S. Smyth and I. M. Thompson, in pediatrics, and R. O. Moody, in anatomy.

DEAN HUGH P. BAKER, of the School of Forestry, Syracuse University, has been appointed a member of a committee organized by the Association for the Protection of the Adirondacks in connection with promoting a public protest against the recreational amendment to the Constitution of the State of New York which provides for cutting timber on the forest preserve lands to make clearings for entertainment structures, which will come up for ratification by the people next fall.

DR. OLIVER JUSTIN LEE, associate professor of astronomy at Northwestern University, will make observations next summer at Fryeburg, Maine, with the aid of airplanes and captive balloons to find out the changes in the temperature and pressure in the air at a series of specific altitudes during the total eclipse of the sun on August 31. Aerological instruments will be placed in the airplanes and captive balloons to record the changes. Three or four balloons will be used in the first 1,000 feet of altitude. Commercial

airplanes will be held at 3,000, 8,000 and 15,000 feet, and Professor Lee is negotiating with the United States Navy for a special navy plane to operate at 25,000 or 30,000 feet. The airplanes will arrive at their specified levels at least half an hour before the eclipse and will fly at easy cruising speed until the eclipse, which will last ninety-nine seconds, has passed. Dr. C. F. Marvin, chief of the United States Weather Bureau, who will provide the aerological instruments and assist in decoding the records, and Rear Admiral Walter B. Gherardi, hydrographer of the United States Navy, will probably accompany Professor Lee to Fryeburg. Captain Barnett Harris, of the United States Army Signal Service, photographer of eclipses, will also be with Professor Lee. He will have with him a battery of four motion-picture cameras equipped with special lenses and will if possible make a complete motion picture of the eclipse.

DR. FRANK AYDELOTTE, president of Swarthmore College, who is visiting Mexico City, is leaving for Germany, where he will study biological research laboratories. Swarthmore College has received an anonymous gift of \$900,000 for the erection of a biological laboratory in memory of Dr. Edward Martin, formerly head of the U. S. Health Department. The building will cost \$200,000 and the balance will be used for equipment and endowment.

DR. WILHELM BLASCHKE, professor of mathematics at Hamburg, is making a lecture tour during 1932. He will lecture at the University of Chicago and other American universities and at the Universities of Annamalai and Calcutta, India, and the Universities of Tokyo and Sendai, Japan.

DR. ROBERT A. MILLIKAN, of the California Institute of Technology, gives the first James Arthur Foundation Lecture at New York University on April 29. His subject is "The Historical Aspects of Time Measurements and their Significance in the Development of Science."

THE Edgar F. Smith Memorial Lecture will be delivered in the Harrison Laboratory of Chemistry of the University of Pennsylvania on Friday, May 20, at 4 o'clock. The lecturer will be Professor Louis Kahlenberg, of the University of Wisconsin, who will speak on "The Relationship between Electrical Potentials and Chemical Activity."

DR. A. E. KENNELLY, professor emeritus of electrical engineering at Harvard University, gave the second Joseph Henry Lecture on "The Work of Joseph Henry in Relation to Applied Science and Engineering" before the Philosophical Society of Washington on April 23.

MR. ALDOUS HUXLEY will deliver the Huxley Me-

morial Lecture at the Imperial College of Science and Technology, London, on May 4. The subject of the lecture will be "Huxley as a Literary Man."

THE Psi chapter of Sigma Pi Sigma, honorary physics fraternity, was installed at Purdue University on April 12. Dr. Marsh W. White, of the Pennsylvania State College, executive secretary, and Dr. M. N. States, of the Central Scientific Company, national president of the fraternity, were the installing officers. After the twenty-seven charter members of the chapter were initiated the new chapter conferred honorary membership upon Dr. Cornelius Lanczos, professor of mathematical physics at the University of Frankfurt, Germany. Dr. Lanczos is visiting professor at Purdue University. After the installation dinner an open meeting of the chapter was addressed by Dr. Lanczos, who spoke on "Maxwell, and his Influence on Modern Magnetic Theory." The installation of the Purdue chapter brings the roll of chapters of Sigma Pi Sigma to twenty-three.

DR. CARL E. SEASHORE, dean of the Graduate College, State University of Iowa, gave the initiation address at the annual initiation of the Iowa Chapter of Sigma Xi on April 27, speaking on "The Scholar as a Person." The initiation included 102 new members. Professor E. I. Fulmer, of Iowa State College, also participated in the initiation, speaking on "The Aims and Emblems of Sigma Xi."

THE Iowa Academy of Science will hold its forty-sixth annual meeting at Iowa State Teachers College, Cedar Falls, on April 29 and 30. Dr. James H. Lees, of the Iowa Geological Survey, will give the presidential address on "Our Underground Geology." The academy lecture will be presented by Dr. L. L. Thurstone, of the department of psychology of the University of Chicago, on "The Measurement of Social Attitudes." Section meetings for the presentation of papers in special fields of science have been provided. The Junior Academy of Science of Iowa holds its first annual convention with the parent organization this year.

THE American Association of Museums meets at Cambridge this year on May 12, 13 and 14. Eight sections of the association are arranging twenty-two special programs covering almost every branch of museum interest. There will be a conspicuous absence of formal business in order to give time in three days for these conferences, besides three general sessions, discussions, entertainment and a banquet at the Fogg Art Museum. Several distinguished guest-speakers, including President Lowell, of Harvard, will be present. Headquarters will be the Commander Hotel. Reservations should be made at once. The special rate is \$2.50 a day per person. Applications for double rooms with bath are urged to conserve accommodations. Reduced railroad fares have been granted on the certificate plan.

DISCUSSION

THE FIELD NATURALIST IN THE FINAL INTERPRETATIONS OF LIFE

NOTHING seems more obvious to me than the fact that the livingness, the behaviors of life are externalities which must eternally be interpreted in their own terms and magnitudes. Advance inward a fraction beneath the surface, and all the familiar externalities of life vanish. One encounters, then, infinite levels of action and interaction from the surface to the electronic depths. As we recede from the surface view of life, we meet ever-expanding planes of complexity until an organism in terms of its electrons or free energies or anything else from the ultra-physical point of view must mean nothing but a vast realm and play of restless force approaching immateriality, call it what we will. Chemistry represents but one small level of analysis, physiology another, morphology another, electro-magnetic behaviors another, *ad infinitum*, until the molecules, atoms and spinning electrons themselves are reached, and the personal warmth and touch of life is no more.

It is legitimate to ask: Why stop at any level, the most superficial, in this weird organic complex with

the external behaviors of life at one end and vast electronic depths at the other? Cellular studies seem simple enough, but what of their aggregates? The bricks of the house, too, are simple units, but a study of the individuality of bricks will not help us to comprehend the art, the style of the architecture of the completed structure. One brick tells nothing, nor two nor ten nor a hundred. Nothing is seen nor felt until those commonplace bricks are built into their final orderly arrangements, and the externality of a particular form is created. Life in a sense is as fugacious as art; life is the art of organic expression, and a John Burroughs or an Alexander Wilson or a Ruskin alone will interpret the finalities of it all for us.

Life, somehow, is externally a translation upward of forces and behaviors from one level to another. The final theme of the organic complex is living expression, but there is a new, a subordinate theme for every subordinate level. The bird in the totality of its morphology and physiology builds a particular nest and sings a specific song, and it behaves thus in virtue of an infinite number of component levels of