The work is divided into fourteen sections, the first of which covers fundamental and general definitions. The others more specifically deal with machines and transformers; switchgear and control gears; apparatus for scientific and industrial measurements; generation, transmission, distribution; electrical traction; power applications; thermic applications; lighting; electrochemistry; telegraphy, telephony; radiology; electrobiology. Definitions appear in both English and French, the two official languages of the International Electrotechnical Commission; and a translation of terms alone is given in German, Italian, Spanish and Esperanto. It is expected that translation of the terms into additional languages will be undertaken in future editions.

While the committee developing this "International Vocabulary" appreciates that it does not constitute a complete unification of electrotechnical nomenclature, through periodic review and revision based on the constructive criticism of electricians of the world, it should become increasingly valuable to engineers.

The edition will be limited. Copies can be reserved by writing to the United States National Committee of the International Electrotechnical Commission at 29 West 39th Street, New York, N. Y.

FELLOWSHIPS IN THE SCIENCES AWARDED BY THE JOHN SIMON GUGGENHEIM FOUNDATION

THE following appointments to John Simon Guggenheim Memorial Fellowships for work in the sciences have been announced:

Dr. Willem J. Luyten, assistant professor of astronomy in the University of Minnesota, first granted a fellowship by the foundation in the year 1928: Appointed to continue his study of the stars in the Southern Hemisphere in the neighborhood of the Sun.

Dr. Ronold Wyeth Percival King, assistant professor of physics at Lafayette College: Appointed to make an experimental and theoretical study of the application of the Maxwell field equations to circuit problems at ultra-high frequencies. This work will be carried on chiefly at the Kaiser-Wilhelm Institute in Berlin-Dahlem, Germany.

Dr. Hans Mueller, associate professor of physics at the Massachusetts Institute of Technology: Appointed to make a study of the structure and properties of liquids, chiefly at the Cavendish Laboratory of the University of Cambridge.

Dr. Lawrence Olin Brockway, research fellow in chemistry at the California Institute of Technology: Appointed to make a determination of the molecular structures of certain heavy metal carbonyls and to give general consideration to the relations between structure and chemical properties, to be carried on, for the most part, in the laboratories of Professor N. V. Sidgwick, at the University of Oxford.

Dr. Florence Barbara Seibert, professor of biochemistry in the Henry Phipps Institute of the University of Pennsylvania: Appointed to make, with the ultracentrifuge, a study of the molecular sizes and cataphoretic mobilities of the active principle of tuberculin in its antigenic and non-antigenic form, to be carried out in the laboratory of Professor The Svedberg at the University of Uppsala.

Dr. James Batcheller Sumner, professor of biological chemistry at Cornell University: Appointed to make, with the ultracentrifuge, a determination of the molecular weights of certain enzymes and crystalline proteins in Professor Svedberg's laboratories.

Dr. Eric Glendenning Ball, associate in psychological chemistry at the Johns Hopkins University: Appointed to conduct a research on the mechanism of biological oxidations. This study will be conducted in several European laboratories.

Dr. William Clouser Boyd, assistant professor of biochemistry in the Boston University School of Medicine: Reappointed to continue studies of blood groups among peoples in southwestern Asia, as data for anthropological investigations.

Dr. William Louis Straus, Jr., associate in anatomy at the Johns Hopkins University: Appointed to make a study of the embryological development of muscle function with particular reference to the anatomical changes that occur in the peripheral neuro-muscular apparatus from physiological immaturity to physiological maturity, to be carried on at the University of London.

Dr. Samuel Robert Means Reynolds, assistant professor of physiology, Long Island College of Medicine: Appointed to work with Dr. George V. Corner, of the University of Rochester, on the nature of the motility-stimulating action of oestrin upon uterine muscle and to prepare a monograph on the physiology of uterine musculature.

Dr. Allan Lyle Grafflin, associate in anatomy at Harvard University: Reappointed to make possible the continuation of functional and cytological studies of the mammalian and human kidney and their extension to other problems pertaining to cellular activity.

Dr. George W. D. Hamlett, research worker in the U. S. Biological Survey at Baltimore: Reappointed to continue a study of the embryology and the reproductive cycles of various South American mammals. Dr. Hamlett is now in Brazil.

Dr. Sydney William Britton, professor of physiology at the University of Virginia: Appointed to establish headquarters at the Barro Colorado Laboratory in the Canal Zone for the purpose of working on the lower forms of mammalia to be found on the Panama Peninsula. His investigations will deal with the functions of the adrenal cortex and the kidney in primitive mammalian forms and in some of the primates.

Dr. Herbert Shapiro, research assistant in physiology at Princeton University: Appointed to investigate nerve activity at low oxygen pressures. These studies will be conducted at the Plymouth and Naples Marine Biological Laboratories.

Dr. Aaron Clement Waters, associate professor of geology at Stanford University: Appointed to make a comparative study of the cataclastic metamorphic rocks, with

a view to ascertaining the condition of their origin, to be conducted in the highlands of Norway and Scotland.

Dr. Charles Henry Behre, Jr., professor of economic geology at Northwestern University: Appointed to make a comparative study of certain lead-zinc deposits, for the purpose of forming generalizations about the nature and structural control of ore deposition in comparison with the lead-zinc ores in limestones in the Mississippi Valley.

Dr. Donald Keith Adams, assistant professor of psychology at Duke University: Appointed to formulate a comprehensive theory of the structure and growth of mind and its testing by application to the data and problems of child psychology.

Dr. Melville J. Herskovits, professor of anthropology, Northwestern University: Appointed to write a book on primitive economics.

SIGMA XI LECTURES AT THE UNIVERSITY OF CALIFORNIA AT LOS ANGELES

THE following public lectures have been given under the auspices of the University of California at Los Angeles Chapter of the Society of the Sigma Xi, in the academic year 1936–37, under the presidency of Dr. George E. F. Sherwood, professor of mathematics:

September 30, 1936: "Periodogram Analysis," by Dr. Dinsmore Alter, director, Griffith Observatory and Planetarium.

October 28: "Sex Determination and Fish Hybrids," by Dr. Albert W. Bellamy, associate professor of zoology, University of California at Los Angeles.

November 4: "The Use of Magnetic Methods in Chemistry," by Dr. Linus Pauling, professor of chemistry, California Institute of Technology.

December 2: "Earthquakes," by Dr. Beno Gutenberg, professor of geophysics and meteorology, California Institute of Technology.

January 6, 1937: "Genes and Hormones in Sex Determination," by Dr. Richard B. Goldschmidt, professor of zoology, University of California, Berkeley.

February 17: "Bright-Line Astronomical Spectra," by Dr. I. S. Bowen, professor of physics, California Institute of Technology.

March 3: "Recent Advances in the Chemotherapy and Serumtherapy of Hemolytic Streptococcal Infections," by Dr. Ralph R. Mellon, director, Institute of Pathology, Western Pennsylvania Hospital.

March 10: "Studies in Language Disabilities," by Dr. Grace M. Fernald, associate professor of psychology, University of California at Los Angeles.

March 19: "Transmutations of Atomic Nuclei," by Dr. Niels Bohr, professor of physics, University of Copenhagen, and Hitchcock Lecturer, University of California, Berkeley, 1936–37.

March 24: "Plant Growth in Relation to Minute Amounts of Certain Chemical Elements," by Professor Dennis R. Hoagland, professor of plant nutrition, University of California, Berkeley.

April 7: "Visitors from Cosmic Space," by Dr. Frederick C. Leonard, chairman, department of astronomy, University of California at Los Angeles.

May 5: "Some Aspects of the Cosmic-Ray Problem," by Dr. Carl D. Anderson, assistant professor of physics, California Institute of Technology.

May 7: "Did Man Originate in Africa?," by Dr. Robert Broom, South African biologist and paleontologist.

SYMPOSIUM ON THE STRUCTURE OF METALLIC PHASES

A SYMPOSIUM on the structure of metallic phases has been arranged by the department of physics at Cornell University for July 1, 2 and 3. The address of welcome will be made by the president of the university, Dr. Edmund E. Day.

The symposium will deal primarily with the "cooperative phenomena" in solids. The factors determining the stability of phases will be discussed from the standpoint of thermodynamics by Dr. J. C. Slater, of the Massachusetts Institute of Technology; statistics by Dr. J. G. Kirkwood, of Cornell University, and by Dr. F. Bitter, of the Massachusetts Institute of Technology, and the quantum theory by Dr. F. Seitz, of the University of Rochester.

The phenomena which will receive special attention are the changes of structure and ferromagnetism. The first topic is divided under two headings, phase changes of the first kind, characterized by the existence of a latent heat, and those of the second kind, for which there is only a jump of the specific heat at the transformation temperature. The most commonly known phase changes, melting and allotropic transformations, are of the first kind; the experimental material will be presented by Dr. E. R. Jette, of Columbia University. The formation of superlattices, to be discussed by Dr. F. C. Nix, of the Bell Telephone Laboratories, involves generally a phase change of the second kind. In all cases, the speed of the transformation has an important bearing upon its occurrence or non-occurrence, which is seen by the often large effect of annealing, and by phenomena such as the aging of alloys which show that statistical equilibrium is frequently attained only after a very long time. Dr. R. F. Mehl, of the Carnegie Institute of Technology, will discuss these questions and their relation to the diffusion in solids. The relation of ferromagnetism to the general theory of cooperative phenomena will be discussed by Dr. Bitter, who will also show how the ferromagnetic properties of alloys can be correlated with those of the pure metals. The relation of ferromagnetism to the crystal structure and especially the dependence of the magnetization on the direction relative to the crystal axes will be discussed by Dr. L. W. McKeehan, of Yale University, and by Dr. R. M. Bozorth, of the Bell Telephone Laboratories.

An effort is being made to correlate the various reports so that those not familiar with the field may gain a clear understanding of the topics discussed.