Dr. Fuoss will read a paper on his work before the Division of Physical and Inorganic Chemistry. He is one of the younger members of a school of chemists, now in its third generation, founded at the University of Kansas in 1896 by Dr. Charles A. Kraus, Professor Hamilton P. Cady and Dr. Edward Curtis Franklin. Dr. Franklin, emeritus professor in Stanford University, is honorary chairman of the San Francisco meeting committee.

Since his graduation from Harvard University in 1923, Dr. Fuoss has studied at the University of Munich; in Professor Debye's laboratory at Leipzig, and under Professor Fowler at Cambridge. He has also completed graduate work at Brown and Harvard Universities, carried on industrial research and assumed charge of the Newport Rogers Laboratory at Brown University in Dr. Kraus's absence. He has published twenty-one papers in scientific journals, seventeen since 1922. He was born in Bellwood, Pa. Dr. Kraus has given the following description of Dr. Fuoss's work:

Dr. Fuoss has developed a theory of electrolytic solutions which applies to solvents other than water, such as ammonia. On coming to Brown, he undertook researches into the difficult and somewhat unpromising problem of electrolytic solutions. On the experimental side, the field of electrolytic solutions was in a very unsatisfactory state. Adequate data for testing theoretical relationships were available only for water solutions.

In the case of solutions in solvents other than water, the data were, in general, not sufficiently reliable to permit a definite answer to the question as to whether or not mass action effects actually exist in solutions of ordinary salts in such media. No serious attempt has been made to provide a theory for solutions of this type.

Striking at the root of the problem, Dr. Fuoss measured the conductance of solutions. He showed for the first time that conductance of an electrolyte in a nonpolar medium approaches a limiting value rather than zero. On the basis of his experimental results, he proceeded to develop an adequate theory to account for the observed properties of an electrolytic solution as a function of the dielectric constant of the medium, temperature, and certain other constants of the medium and the solute. He likewise devised new methods for mathematical analysis of the various types of conductance curves. These methods have proved invaluable in analyzing the results of conductance measurements. It is not too much to say that as a result of this work we now have, for the first time, a comprehensive theory of electrolytic solutions which, at lower concentrations, applies to all solvent media and to all electrolytes.

In other words, we are now able to predict the properties of a solution of a given electrolyte in a given solvent medium provided that certain fundamental physical constants of the electrolyte and the medium are known.

The $1,000 award in pure chemistry was founded by A. C. Langmuir, of Hastings-on-Hudson, N. Y., to reward "the accomplishment in North America of outstanding research in pure chemistry by a young man or woman under thirty-one years of age, preferably working in a college or university." "Outstanding research" is construed to mean work of unusual merit for an individual on the threshold of his career. Members of the Committee on Awards of the American Chemical Society award in pure chemistry are: Professor Edward Bartow, of the University of Iowa, president-elect of the society; Professor Homer B. Adkins, Dr. John Johnston, Dr. Ralph E. Gibson, Dr. Frank C. Whitmore, Dr. W. H. Carothers and Edward Mack, Jr.

THE DIRECTOR OF THE NEW YORK BOTANICAL GARDEN

AT a special meeting of the Board of Managers of the New York Botanical Garden, held at the office of the president, Henry W. de Forest, Dr. Marshall Avery Howe was elected director of the garden, effective on October 1. He succeeds Dr. Elmer Drew Merrill, director since January 1, 1930, who has resigned to accept a call to head the eight botanical units of Harvard University. Dr. Howe has been a member of the scientific staff of the Botanical Garden for thirty-four years, serving as assistant director for the past twelve years and as acting director for several short periods. He has seen the garden develop from little but an ambitious plan in the mind of the first director, the late Dr. Nathaniel Lord Britton, and his co-workers to its present rank as one of the three leading institutions of the world devoted to the advancement of the plant sciences, with four hundred acres of land, more than one hundred people on its regular payrolls, about 1,800,000 specimens in its herbarium, 45,000 bound volumes in its library, and notable floral and horticultural displays out of doors and under glass extending throughout the year.

Dr. Howe is a graduate of the University of Vermont, of which state he is a native. After a short period as submaster of the Brattleboro High School, he accepted, in 1891, an appointment as instructor in cryptogamic botany in the University of California. In 1896, he came to New York for graduate studies at Columbia University, from which he received the degree of doctor of philosophy in course in 1898. After three years as a member of the botanical staff of Columbia University, he became assistant curator of the New York Botanical Garden in 1901, advancing to curator in 1906, and to assistant director in 1923. Dr. Howe has made field expeditions to Nova Scotia, Newfoundland, Bermuda, Florida, the Bahama Islands, Cuba, Puerto Rico, Jamaica and Panama. He has made special studies of the plant life of the sea, in which field he is an acknowledged authority. Since 1912, his writings and lectures have emphasized the importance of lime-secreting sea-plants in reef-building and land-forming, an activity that has long been

credited almost exclusively to lime-secreting animals, the corals. Recent investigations show that in many parts of the world the plants have played a greater part in land-building than have the corals.

Dr. Howe has long taken an active personal interest in horticulture, specializing particularly in dahlias, irises and peonies. The dahlia border at the Botanical Garden, under his direction for the eighteen years of its existence, with four or five hundred of the newer and better varieties as well as a few of the older ones, attracts thousands of visitors each season, and has done much to educate amateurs and professionals in the advances in this field.

He has been editor of *Torreya, The Bulletin of the Torrey Botanical Club,* the monthly *Journal* of the New York Botanical Garden and of various other publications of the garden. He is a fellow and at the present time president of the New York Academy of Sciences, a member of the National Academy of Sciences and of various other scientific societies. In 1919, his alma mater conferred upon Dr. Howe the honorary degree of doctor of science. It is expected that under his directorship the advances made by Dr. Merrill on the substantial foundations laid by Dr. Britton during his thirty-three years of leadership will be effectively conserved and continued.

SCIENTIFIC NOTES AND NEWS

DR. IVAN PAVLOV, professor of physiology at the University of Leningrad, is host to the 850 foreign physiologists and biologists, representing thirty-seven countries, who are expected to attend from August 8 to 17 in Moscow and Leningrad the International Congress of Physiology, of which he is president. Dr. Pavlov attended the International Neurological Congress, which opened in London on July 29. Last year, on the occasion of his eighty-fifth birthday, the Soviet Government awarded to him an annual pension of 20,000 rubles. A fund of 1,000,000 rubles was also made available for extensions to his laboratories in Leningrad.

DR. H. S. REED, professor of plant physiology in the Citrus Experiment Station of the University of California, has been awarded the Bronze Medal of the Société Nationale d'Acclimatation de France, in recognition of his work in botany and of collections of plants he has made for the Paris Museum of Natural History.

DR. OSKAR BAUDISCH, research chemist and technical consultant of the Saratoga Springs Commission, who has been carrying on a series of investigations at the Biochemical Institute, University of Stockholm, Sweden, of which Dr. H. von Euler is director, has recently been awarded the gold Scheele Medal for outstanding biochemical research by the Swedish Chemical Society. This is the second time this medal has been awarded to a United States citizen. The late Professor Otto Folin was awarded the medal some years ago.

DR. LEROY U. GARDNER, director of the Saranac Laboratory for the Study of Tuberculosis, Saranac Lake, N. Y., received the Trudeau Medal of the National Tuberculosis Association at the annual meeting in Saranac Lake on June 24. The award was made for his work on the pathology of tuberculosis, notably that dealing with the relation between tuberculosis and silicosis.

THE Medal of Achievement of the Poor Richard Club of Philadelphia was recently awarded to Dr. John A. Kolmer, professor of medicine at Temple University, in recognition of his work on poliomyelitis vaccine.

W. T. ASTBURY, of the department of textile physics at the University of Leeds, has been awarded the Actonian Prize of 100 guineas. This award of the Royal Institution is made every seven years for the best essay "illustrative of the wisdom and beneficence of the Almighty in some department of science."

THE honorary degree of doctor of science was conferred on Dr. Walter Robert Parker by the University of Michigan at its recent commencement. For twenty-eight years Dr. Parker was professor of ophthalmology at the university; since 1933 he has been professor emeritus.

HONORARY degrees were conferred recently by the University of Belfast on Professor T. G. Moorhead, regius professor of physic, Trinity College, Dublin; on Dr. T. Carnwath, senior medical officer, Ministry of Health; and on Major-General W. P. Macarthur, deputy director general, Army Medical Services. The degree of D.Sc. was conferred on J. B. Parke for work on the viscosity of emulsions.

DR. GUY W. SMITH, associate professor of mathematics at the University of Kansas, has been promoted to a full professorship.

ROWLAND J. CLARK has been appointed associate professor of milling industry at the Kansas State College. His principal work will be in testing wheats and flours for their various characteristics as influenced by varietal factors, environmental conditions, milling procedure, and to relate these to their utilization by the milling and baking industries.

DR. IVES HENDRICK, of the Harvard University Medical School, has been invited by the Graduate School of