Mr. Redington further states that this refuge, which lies just south of the California-Oregon line, will supplement the Clear Lake refuge in California, just east of Tule Lake, and the recently established upper Klamath refuge, on the west shore of Klamath Lake, in Oregon. A year ago it was announced that because of lack of water a reflooding program on lower Klamath Lake, west of Tule Lake, would have to be abandoned. The establishment of the refuge, therefore, on Tule Lake will, in a measure, offset the loss of possible sanctuary caused by the abandonment of the lower Klamath project.

It is further stated that because of the encroachment of industrial and agricultural development the wild fowl have in many areas throughout the United States lost their former homes and stopping places, and that the government in its obligations under the migratory bird treaty with Great Britain is steadily working for the reestablishment of suitable water areas so that the wild fowl may regain something of what they have lost. The setting aside of such areas strategically located along the principal lines of migration will probably do more for the future welfare of the wild fowl than any other one measure.

SUMMER MEETING OF THE AMERICAN SOCIETY OF PLANT PHYSIOLOGISTS

AT the invitation of the Purdue section, the summer meeting of the society was held at Purdue University, Lafayette, Indiana, on September 4 and 5. About fifty were in attendance, mostly from the states of Ohio, Michigan, Illinois, Indiana and Wisconsin.

On September 4, a program of short papers was given by members of the Purdue staff, explaining investigations and field plot work. Mr. J. F. Trost discussed the response of corn hybrids to fertilizers. Mr. L. P. Miller gave the results of his studies on the effect of manganese deficiency in sand culture. Dr. E. B. Mains reviewed the results of studies concerning physiologic specialization in the rusts. Mr. K. D. Doak gave the results of his investigations concerning the effect of mineral nutrition on the rust reaction of wheat. Dr. J. H. MacGillivray summarized the results of his studies concerning tomato quality. Professor L. P. Cullinan and Mr. J. L. Sullivan gave the results of their studies concerning the nutrition of apple trees. Professor P. H. Brewer described methods for the purification of the virus of tomato mosaic. Mr. L. M. Bushnell described the dominant soil types in the vicinity of Lafayette. Professor S. D. Conner outlined the agronomy field plot experiments. Following a dinner held at Lincoln Lodge, Dr. C. A. Shull discussed the present status of the journal and plans for its future development.

September 5 was spent in field trips. In the morning the soils and crops experimental farm east of Lafayette and the animal husbandry farm north of West Lafayette were visited and breeding and fertility experiments with corn were studied. Following a lunch at the Fowler Hotel, Professor E. J. Kraus discussed the relationship of plant physiology and applied botany. In the afternoon the orchards of the horticultural department west of Lafayette were visited and pruning and fertility experiments were studied.

APPROPRIATIONS FOR RESEARCH AT CORNELL UNIVERSITY

THE Heckscher Foundation for Research at Cornell University, on recommendation of its council and the approval of the University Board of Trustees has appropriated $70,294 for forty-two separate research projects to be conducted this year.

This year's use of the income of the fund which Mr. August Heckscher established at Cornell in 1920, marks a departure from the previous policy. While providing for research in the physical and biological sciences as well as the humanities, the major portion of this year's funds will be devoted to researches in the general field of radiation. Some of the researches thus provided for are purely physical studies of the nature of radiation, some make use of radiations of various kinds in studies of the structure of matter and some deal with the effects of radiation on chemical reactions and on certain biological phenomena.

In addition to the previously announced researches in the field of radiation, the following grants in the natural and exact sciences have been made to members of the Cornell faculty for the current year:

Professor J. Papish. The occurrence, distribution and association of the rarer chemical elements.

Professor A. C. Gill for a petrographic investigation of the Tully limestone.

Professor J. B. Sumner for materials and assistance in connection with a study of the preparation and properties of crystalline urease.

Professor J. A. Dye for materials and assistance in a study of tissue respiration and endocrine functions.

Professor G. C. Embody to aid him in his studies of the rate of growth of wild trout in streams.

Professor Cornelius Betten for aid in the preparation of a manuscript dealing with the Trichoptera.

Dr. Grace H. Griswold for assistance in the preparation of a manuscript on chalcidoid parasites of aphids.

Professor L. H. McDaniels for assistance in a histological study of the phloem tissue of woody plants.

Professor Allan Nevins for assistance in a study of the history of American railways.

Professor J. C. Needham for assistance in his study of the Ephemeridae and other Neuropteroid insects.

Professor O. A. Johannsen for the study of the development and biology of Diptera.

Professor O. F. Curtis for the study of the movement of materials within a plant.

Professor H. Ries for an investigation of the moulding sand resources of the United States.

Dr. G. H. Maughan for a study of the effect of radiant energy on the development of certain glands of chickens.

Professor H. S. Liddell for assistance in his study of conditioned reflexes in the sheep and goat.

SCIENTIFIC NOTES AND NEWS

THE twenty-fifth award of the John Fritz Gold Medal has been made to Mr. Herbert Hoover and will be presented to him at the annual meeting of the American Institute of Mining and Metallurgical Engineers in February. The citation accompanying the award reads: "To Herbert Hoover, engineer, scholar, organizer of relief to war-stricken peoples, public servant."

BY vote of a committee representing the Society of Chemical Industry, the American Chemical Society, the Société de Chimie Industrielle and the American Electrochemical Society, the Perkin Medal for 1929 will be awarded to Dr. E. C. Sullivan. The award is for his work on various special types of glasses including pyrex. Presentation will be made on January 4 at a joint meeting of the chemical societies to be held at the Chemists' Club, New York.

IN the house on Twentieth Street, New York, where Theodore Roosevelt was born seventy years before, the Honorable Charles Evans Hughes and Dr. Frank M. Chapman received on October 27 Roosevelt medals for distinguished service in American public life. A third medal was accepted on behalf of Colonel Charles A. Lindbergh. The citation of Dr. Chapman said in part that the ornithologist was a "writer and lecturer of persuasive charm, who has taught a nation to see, to know, to love and to protect the entrancing and forever mysterious familiars of its daily life."

THE new Welch Medical Library of the Johns Hopkins University, named for Dr. William H. Welch, who returned recently from Europe, will be opened in a few weeks. President Goodnow has announced the appointment of Lieutenant-Colonel Fielding H. Garrison, of the library of the Surgeon-General's office in Washington, as consulting librarian. William G. Shules is named assistant librarian.

THE laboratory recently established at the Massachusetts Institute of Technology for research in inorganic chemistry has been named the Henry Paul Talbot Laboratory in honor of the late Professor Talbot. A portrait presented by Mrs. Talbot, who was present at the ceremony, was unveiled when the new laboratory was named. Dr. F. K. Keyes, director of the laboratory and in charge of the department of chemistry, presided, and Professor H. M. Smith, in charge of the division of inorganic chemistry, made an address describing Dr. Talbot's long and distinguished association with the institute and particularly his services in the teaching of chemistry. Dr. Talbot was professor in the department of chemistry from 1892 to 1927.

A MONUMENT to Louis Pasteur was unveiled on the Chicago lake front on October 27, amid impressive ceremonies in which Vice-President Dawes and the French Ambassador, M. Paul Claudel, took part. The twenty-eight-foot monument, built of Italian marble, stands at the west end of the Field Museum of Natural History. It was designed by Leon Hermant, French sculptor of Chicago.

ACCORDING to an Associated Press dispatch an impressive ceremony in memory of Captain Roald Amundsen, who lost his life while attempting to reach survivors of the wreck of the dirigible *Italia* in the Arctic several months ago, was held in the festival hall of the University of Oslo on October 25, under the auspices of the National Geographical Society. Dr. Fridtjof Nansen delivered the principal address.

THE retirement is noted in *Nature* of Professor H. F. Newall from the chair of astrophysics at Cambridge and from the directorship of the Solar Observatory. Professor Newall was on the Mathematical Tripos list of 1880 with Sir Joseph Larmor and Sir Joseph Thomson.

AT the annual meeting of the British Horological Institute on October 10, Sir Frank Dyson, the Astronomer Royal, received the first gold medal awarded by the institute.

DR. HARVEY CUSHING, Moseley professor of surgery at the Harvard Medical School and surgeon-general of the Peter Bent Brigham Hospital, Boston, has received the decoration of commander of the Order Del Sol of Peru.

LIEUTENANT-COLONEL EDWARD G. HUBER, of the United States Army Medical Corps, was elected president of the honorary public health society, Delta Omega, at its fifth annual meeting held at Chicago on October 15, during the convention of the American Public Health Association. Dr. C. C. Young, of the Michigan State Department of Health, was elected