

chief of the Ancient Monuments Inspectorate of H.M. Office of Works. The Yorkshire Ramblers Club is arranging for small parties of members to make the descent of Gaping Ghyll. Arrangements will also be made for visits to the principal works and factories in and near Leeds.

OHIO GEOLOGISTS' FIELD TRIP

THE annual field trip of the geological section of the Ohio Academy of Science was conducted by Wilbur Stout, of the Ohio Geological Survey, in the Portsmouth-Pomeroy region of southern Ohio on May 28, 29 and 30. With a registration of forty-five, the excursion was one of the most largely attended field trips in the recent years of the section's activity.

During the progress of the excursion, the party visited outcrops of the Waverly and Maxville Series of the upper Mississippian System and the Pottsville, Allegheny, Conemaugh and Monongahela Series of the Pennsylvanian, giving opportunity for both fossil collecting and stratigraphic study. The notable physiographic features of the region—the old Teays river valley, and other recently abandoned drainage systems, the upper peneplain level, and the evidence for intermediate erosion stages—were examined by members of the party. Clay pits and mines were visited at Sciotoville, Scioto Furnace, and Oak Hill; coal mines near Jackson and at Pomeroy; and salt works at Pomeroy. One of the most enjoyable features of the excursion was a starlight steamboat ride on the Ohio River at Pomeroy on the specially chartered "Champion III."

Among the institutions represented were: Antioch College, Cincinnati University, Marietta College, Miami University, Muskingum College, Ohio Geological Survey, Ohio State University, Ohio Wesleyan University, Toledo University, the East Ohio Gas Company and the Jackson Coal Company.

A. C. SWINNERTON

VICE-PRESIDENT FOR GEOLOGY,
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THE ARNOLD ARBORETUM

IN order that the Arnold Arboretum at Jamaica Plain, which contains the greatest collection of hardy trees and shrubs in the United States, may be perpetuated and enlarged, friends of the late Professor Charles Sprague Sargent are raising a fund to continue its work. The Boston committee formed to raise the Charles Sprague Sargent Memorial Fund for the endowment of the Arnold Arboretum announces that up to June 10 the sum of \$460,820 has been received toward the \$1,000,000 fund considered necessary to carry on this work.

In less than three months since Professor Sargent died on March 22 nearly half of the fund has been subscribed by those most deeply interested in the arboretum's future, principally by friends in Boston. A national committee and other local committees are now being formed throughout the country so that nature-lovers everywhere may have an opportunity of contributing to the garden, which contains more than 6,500 species and varieties of trees and shrubs.

Sargeant was Arnold professor of arboriculture at Harvard University and director of the arboretum for fifty-four years, and he planned and created it as an artist works out a picture, personally directing the planting of its trees and shrubs. Through an agreement made in 1872, the president and fellows of Harvard College became trustees of a bequest of \$100,000 left by one James Arnold, a New Bedford merchant, which it was decided should be used for the development of trees. The Harvard trustees provided as a site for the garden some 125 acres of property in West Roxbury, bequeathed to Harvard by Benjamin Bussey.

Frederick Law Olmsted, Sr., when planning a park system for Boston, suggested that the arboretum's land become part of that system. The city agreed to build roads throughout the arboretum and maintain them and to protect it with its police, and the president and fellows agreed to keep the arboretum open every day in the year from sunrise to sundown. This arrangement has given to the arboretum all the advantages of perpetual ownership of the land it occupies and has relieved it of heavy financial burdens. Additions of land have been made until the arboretum now has an area of 250 acres. Professor Sargent built up a library at the arboretum to which, it is said, no similar collection outside the British Museum can be compared. He did this largely at his own expense, and made generous financial contributions through all the years of which there is no complete record. The arboretum's average expenditure during the last five years has been \$80,000, with a tendency to rise, and its present income from endowment is not more than \$60,000.

AWARDS FOR RESEARCH AT CORNELL UNIVERSITY

THIRTY-TWO members of the Cornell Faculty will receive awards from the Hecksher Fund to carry on scientific and scholarly research next year. This fund, established by August Hecksher, of New York, several years ago, amounts to \$50,000 annually and is devoted to research work in various fields.

A faculty committee, of which Dean R. A. Emerson of the Graduate School is chairman, has agreed upon the awards and they will be ratified by the Board of

Trustees. The amounts given vary in accordance with the needs and the merits of the work. The awards for research in the natural and exact sciences follow:

Professor Louis M. Dennis, two awards, supplementary to grants already made to assist in chemical research.

Professors William R. Orndorff and Roswell C. Gibbs, for a study of the absorption spectra of organic compounds.

Professor Albert H. Wright, for an investigation of the life history of the North American frog.

Professor Arthur W. Browne, for an assistant, for the study of azidodithiocarbonic acid and its derivatives.

Professors Veranus A. Moore and Charles M. Carpenter, for a study of undulant fever.

Professor Jacob Papish, for a study of spectroscopy of the rarer elements.

Professor Morris A. Copeland, for statistical investigation of monetary theory.

Professor Roswell C. Gibbs, for an assistant in research on the series of radiation doublets of stripped atoms of the potassium type.

Professor Frederick G. Switzer, for employing an assistant in the study of a rational method of determining the probable flood flows of rivers, and a study of cycles and periodicities of normal river flow.

Professor Robert Matheson, for a study of culicid ecology.

Professor James C. Bradley, for a taxonomic study of the Vespidae.

Professor Oskar A. Johannsen, for drawings necessary to illustrate a paper on the embryonic development of the arctiid moth.

Professor John I. Hutchinson, for the salary of an assistant, to spend part of his time on the study of the properties of functions defined by certain Dirichlet series.

Professor Arthur Ranum, for an assistant, to spend part of his time on the study of the principle of duality in the differential geometry of surfaces and solid curves.

Professor Karl M. Dallenbach, for the study of nerve regeneration.

Professor A. A. Allen, for the artificial propagation of the canvasback and other diving ducks.

Professor Herbert H. Whetzel, for an assistant, to spend part of his time in taxonomic studies in the general Sclerotinia and Botrytis.

Professors Hugh D. Reed, Allen Frazer and George C. Embury, for genetic studies and related problems in fishes.

Professor Loren C. Petry, for the collection of fossil plant material from the middle Devonian formation of Gaspé Basin, Quebec.

Professor Peter W. Claassen, for research work on the taxonomy and biology of the immature stages of the Plecoptera of North America.

Professor Ernest Merritt, for a study of the influence of condition in the upper air upon the transmission of electric waves.

Professor Rollin A. Emerson, for a study of the mode of inheritance of certain characteristics in the honey bee.

Professor James B. Sumner, for the study of the enzyme urease.

Professors Edward L. Nichols and Ernest W. Merritt, for the investigation of luminescence of inorganic substances.

SCIENTIFIC NOTES AND NEWS

DR. HENRY PAUL TALBOT, professor of analytical chemistry for thirty-five years in the Massachusetts Institute of Technology, died in Boston on June 18, aged sixty-three years.

BROWN UNIVERSITY at its recent commencement conferred the doctorate of laws on Dr. William Louis Poteat, president of Wake Forest College, Wake Forest, N. C., and on Dr. Michael Idvorsky Pupin, professor of electro-mechanics at Columbia University.

LEHIGH UNIVERSITY has conferred the degree of doctor of science on Dr. William D. Coolidge, of the General Electric Company, and of doctor of engineering on Dr. Elmer A. Sperry. The commencement address was delivered by Dr. Michael I. Pupin.

WESLEYAN UNIVERSITY conferred the degree of doctor of science on Dr. Edward L. Rice, professor of biology in Ohio Wesleyan University and on Dr. Charles L. Beach, president of the Connecticut Agricultural College.

THE doctorate of science has been conferred by the University of Pennsylvania on Arthur Webster Thompson, engineer, president of the United Gas Improvement; George David Rosengarten, manufacturing chemist, president of the American Chemical Society; Henry Sturgis Dennison, of Framingham, Mass., manufacturer and leader in industrial research; John Ripley Freeman, of Providence, R. I., hydraulic engineer; Dr. Josiah Calvin McCracken, dean of the Medical School of St. John's University, Shanghai, and Dr. Charles Williamson Richardson, of Washington, otolaryngologist.

AT Colgate University the degree of doctor of science was conferred on Dr. Frank Earl Williams, editor of *Mental Hygiene*, and on Dr. George Hoyt Whipple, dean and professor of pathology in the school of medicine and dentistry of the University of Rochester. The doctorate of laws was conferred on Mr. Gerard Swope, president of the General Electric Company.

JOSEPH S. ILLICK, state forester of Pennsylvania, received the honorary degree of doctor of science at the commencement exercises of Lafayette College.

THE honorary degree of doctor of science has been conferred on James M. Bartlett by the University of Maine, in recognition of forty-two years of con-