powered agricultural land, such as these rich prairie soils. It is recognized by the erosion specialists that many millions of acres of land now in cultivation are so steep and erosive that it is futile to continue their use along lines of present agricultural practise. These lands must be taken out of the clean-tilled crops, under which wastage of soil by erosion is most rapid. They must either be planted to trees or soil-saving, thick-growing crops, such as alfalfa, grasses and clover, or protected from grazing long enough for voluntary growth of weeds and grasses to take care of the problem.

THE TENNESSEE ACADEMY OF SCIENCE

THE thirty-third meeting of the academy was held on Friday and Saturday, December 1 and 2, at the George Peabody College for Teachers, Nashville, Tenn. Discussion of the Tennessee Valley Development was the chief feature of the meeting. A symposium on "The Tennessee Valley Development Project" constituted the program for the Friday afternoon session, as follows:

"The Geological Phases of the Project," by Dr. Walter F. Pond, state geologist, Nashville.

"Transportation and Other Geographical Problems," by Dr. Albert E. Parkins, George Peabody College.

"General Engineering Features," by Professor Fred J. Lewis, Vanderbilt University.

"Agricultural and Sociological Aspects," by Dr. Kary C. Davis, George Peabody College.

The subject of the academy address on Friday evening, by Dr. Walter D. Cocking, Tennessee state commissioner of education, was "The Educational Implications of the Tennessee Valley Authority."

At the business meeting on Saturday, amendments to the constitution and by-laws were adopted, providing for the management of the Reelfoot Lake Biological Station by a director and a board of trustees chosen by the executive committee.

Resolutions were adopted approving the presentation of the Tugwell bill for adequate control of the advertising claims and the contents of proprietary medicines, and the general plans for the development of the work of the Tennessee Valley Authority and its freedom from political guidance and its efforts toward enlivening the social order and improving the industrial, natural and educational resources of the South.

The president, Dr. Francis G. Slack, presided at the sessions on Friday morning and afternoon, and the vice-president, Dr. Charles W. Davis, on Friday evening and Saturday morning.

Officers for the year 1933–1934 are:

President, Walter F. Pond, Tennessee state geologist, Nashville.

Vice-president, George M. Hall, professor of geology, University of Tennessee, Knoxville.

Secretary-treasurer, John T. McGill, professor emeritus of organic chemistry, Vanderbilt University, Nashville.

Editor, Jesse M. Shaver, professor of biology, George Peabody College, Nashville.

The librarian is Miss Eleanor Eggleston, Vanderbilt University. Dr. A. Richard Bliss, Jr., director of the research laboratories of the William A. Webster Company, Memphis, will be the director of the Reelfoot Lake Biological Station. The secretary-treasurer of the academy, Dr. John T. McGill, was elected to represent the academy at the meeting of the American Association for the Advancement of Science, Boston, December 27, 1933. The spring meeting of the academy for 1934 will be held at Knoxville.

THE WORK OF PROFESSOR WILLIS LINN JEPSON

PROFESSOR WILLIS LINN JEPSON, of the department of botany of the University of California, was recently appointed faculty lecturer for 1934.

Professor Jepson is a native of California and an alumnus of the University of California, having been born in Vacaville, on August 19, 1867, and having rereceived the degrees of bachelor and doctor of philosophy in 1889 and 1899. His first appointment to a teaching post came in 1891, when he became a student assistant in the university.

In announcing his appointment the academic senate outlined his contributions as follows:

Beginning as a boy, and later under Edward Lee Greene, he has devoted himself to a study of the flora of California. He established the journal *Erythea*, for the expression of ideas and discoveries in California botany. He has published innumerable shorter articles dealing with various aspects of the botany of the state, taxonomic, morphologic and distributional. His more considerable contributions began with his first edition of his book, "Flora of Western Middle California." His next undertaking was to bring together the flora of the entire state, which meant a laborious monographic study of every genus of flowering plant in the state. Outstanding in this series of monographs were those on Allium, Eriogonum, Arctostaphylos, Godetia and the family Umbelliferae. His work on the genus Eschscholtzia is regarded as a classic in the handling of difficult polymorphic genera. The preliminary draft of these studies resulted in the publication of the "Manual of Flowering Plants of California." Meanwhile, the monographic work has been appearing in parts, as "The Flora of California." This work is still going on, and although a considerable number of parts have been published, the manuscript already prepared and awaiting publication will greatly extend this monumental work.

Professor Jepson has concerned himself not only with the flora of California in general. His name will ever

be associated among both scientists and naturalists with his studies of the trees of California. His elaborate and consummately executed book "Silva of California," published as a memoir in the botanical series of the University of California, is recognized as an outstanding masterpiece of systematic botany. The two editions of his smaller work, "The Trees of California," have, however, been even more instrumental in aiding an increasing number of persons to acquire a knowledge of this part of the state's plant life.

The breadth of view-point exhibited in his taxonomic work has given Professor Jepson a high rank among American botanists. He is a member of several botanical societies and has been honored by elections to the American Academy of Arts and Sciences and the National Botanical Society of Czecho-Slovakia. He has been an active promoter of forest conservation, and has been for many years a counselor of the Save the Redwoods League. He is known to every amateur botanist and plant lover in the state.

THE RETIREMENT OF DR. BEVERLY T. GALLOWAY

DR. BEVERLY T. GALLOWAY, who retired recently from the U. S. Department of Agriculture under the age limit clause, is not planning to retire from active research. He, like several other scientific men similarly retired, plans to continue research, especially the broader aspects in relation to new crops, their diseases and utilization under changing economic conditions. He will divide his time between headquarters in the Bureau of Plant Industry in Washington and his winter home on a small tract in Florida, where he will devote particular attention to new plants of value to Florida and the South.

Dr. Galloway was appointed to the department in 1887 and has served continuously—with the exception of two years—in research and administrative posts. He was largely responsible for the creation of the Bureau of Plant Industry from several independent divisions engaged in plant research and was chief of the new bureau from 1901 to 1912. In 1913–14 he was assistant secretary of agriculture and was then dean of agriculture at Cornell University for two years, returning to the department in 1917.

Dr. Galloway, primarily a research worker, was frequently drawn into administrative activity, and repeatedly was called on to assist in formulating and guiding the research and extension policies of the department. Under Secretary James Wilson he guided the legislative and related movements for new buildings, resulting finally in the erection of the East and West wings and plans for a central structure and additional wings practically as now being constructed.

Appointed as assistant plant pathologist in 1887, Dr. Galloway became chief of the Division of Vegetable Physiology and Pathology the following year. In 1900, when William Saunders died, Dr. Galloway succeeded him as chief of the Division of Gardens and Grounds. In the course of his administration he helped to start in the Bureau of Plant Industry the work in farm management and marketing which later grew into the Bureau of Agricultural Economics.

As Assistant Secretary of Agriculture under Secretary Houston in 1913–14 he was regarded as an able administrator and was responsible for improving the working organization of the department. After his return to the department in 1917 he continued in research work, particularly investigations of the pathological aspects of the introduction of new plants.

AWARD OF THE COPLEY MEDAL OF THE ROYAL SOCIETY TO PROFESSOR THEOBALD SMITH

AT the anniversary meeting of the Royal Society, London, on November 30, the award of the Copley Medal was made to Dr. Theobald Smith, emeritus member of the Rockefeller Institute. The medal was presented by Sir Frederick Gowland Hopkins. We take from *Nature* an extract from his remarks:

"Professor Theobald Smith was director of the Department of Animal Pathology of the Rockefeller Institute for Medical Research, Princeton, N. J., from 1914 until 1929. In 1886 with Professor Salmon he showed a new method for producing immunity from contagious diseases by inoculating with a dead bacterial vaccine killed by heat, thus advocating a principle which was re-discovered fifteen years later and has been widely used, notably for making antityphoid vaccine. In 1889 he discovered the first known instance of a disease of vertebrates transmitted by an arthropod—Texas fever of cattle due to a protozoon transmitted by a tick. He introduced differential tests for bacteria based on their biochemical action. In 1896–98 he clearly, and for the first time, distinguished between the human and bovine types of *Bacillus tuberculosis* and the forms of disease which they produce, anticipating Koch's pronouncement in 1901.

"In 1903, with Reagh, Professor Smith described the non-motile variants of certain pathogenic motile bacteria and their important serological differences. He discovered in 1904 the remarkable phenomenon known as anaphylactic shock in the guinea pig. In 1926 he discovered the very potent effect of the colostrum, the first milk of cows, in protecting calves from certain severe infections. He also made other notable original observations, such as those on the growth and toxin production of the diphtheria bacillus, and on the production of immunity by mixtures of toxin and antitoxin; he also described disease of the cow's udder communicable to man by the milk."