and $480,000 additional as payments to the states under the Purnell act for the state experiment stations. These increases brought the estimated expenditures this year for research in the department up to approximately $13,000,000, and the payments to the states for research to $3,840,000. In the 1930 act about $1,500,000 additional is provided for research in the department and $495,000 for the state experiment stations and the Hawaii station.

Among the larger increases for research are a new item of $160,000 for investigations by the department of the causes and means of prevention of destructive soil erosion and the conservation of rainfall by terracing and other means; $300,000 for intensive entomological and plant-breeding work to meet the serious situation arising out of the prevalence of leaf-hoppers and resultant curly-top disease of sugar beets and other important truck crops; $160,000 for forestry research projects (principally for items under the McNary-McSweeney Forestry Research act); $80,000 for investigational work in the Bureau of Animal Industry, including $38,000 for studying contagious abortion of cattle; $97,000 for the research projects of the Bureau of Dairy Industry; $325,000 for investigations of the Bureau of Plant Industry, and $85,000 additional for eradication work under that bureau on the phony disease of the peach in the south; $100,000 for projects of the Bureau of Chemistry and Soils, exclusive of the $160,000 erosion item previously listed, which is to be handled by the Bureau of Chemistry and Soils and several other bureaus; $168,000 for insect research by the Bureau of Entomology, including $40,000 additional for corn-borer research; $45,000 for the investigational work of the Bureau of Agricultural Economics; $27,000 for agricultural engineering research projects under the Bureau of Public Roads; $20,000 for investigations by the Bureau of Home Economics, and an increase of $60,000 for the special research program which the department is conducting to find ways and means to meet the situation in farming arising out of the infestation in this country of the European corn-borer. This makes a total fund of $210,000 for 1930 for the special corn-borer program, which involves work along engineering, cultural, economic and other lines as distinguished from the research and control work relating to the corn-borer itself as an insect. There is also an increase of $100,000 in the appropriation for printing for the department, which at present is badly congested.

THE AMERICAN MUSEUM OF NATURAL HISTORY

THE New York City Board of Estimate in Committee of the Whole has made appropriations aggregating $2,400,000 for the extension and development of the American Museum of Natural History.

Of this sum $750,000 was voted to match a like sum which had been given by Harry Payne Whitney for the construction and equipment of the new wing to be known as South Oceanic Hall. Mr. Whitney made his gift contingent upon the city providing an equal amount for the same purpose. The city's appropriation was provided for in the corporate stock and tax notes calendar and the $750,000 will be raised by the sale of serial bonds of the city.

George H. Sherwood, director of the museum, appeared before the board after Dr. Henry Fairfield Osborn, its president, had conferred on the subject with Mayor Walker and other members of the Board of Estimate. Mr. Sherwood confirmed the mayor's statement that the state already had appropriated $1,250,000 for the new addition to the museum building to be known as the Roosevelt Memorial, in honor of President Roosevelt, and the mayor declared that the city would match that sum with an appropriation of $1,650,000, of which $1,250,000, matching the state's appropriation for the Roosevelt Memorial, might be devoted to the construction of the foundation and the first two stories of the proposed wing to be known as African Hall.

The city's remaining allotment of $400,000 will be used for construction of a power house and heating plant for the African Hall and the Roosevelt Memorial, which have been so planned that both may be served from one plant.

Dr. Osborn told the mayor that the ultimate cost of African Hall would be about $3,050,000 and that, in addition to the Whitney gift of $750,000 for South Oceanic Hall, additional gifts of $866,000 from private citizens for the general use of the museum had been received.

Mayor Walker stated that, following its present policy, the city administration would stand ready to match with like sums all private subscriptions for the enlargement of the museum.

The American Museum of Natural History is governed by a self-perpetuating board of thirty trustees, of which the mayor, the controller and the president of the Park Board are *ex officio* members. The president of the board of trustees is Dr. Osborn; the first vice-president, George F. Baker, and the second vice-president, J. P. Morgan.

THE MILTON AWARDS FOR RESEARCH AT HARVARD UNIVERSITY

FORTY-ONE awards, amounting to more than $58,000, have been made to professors in Harvard University to enable them to carry on research during 1929–1930, under the provisions of the Milton Fund. A committee was appointed, consisting of Dr. Frank B.

Jewett, vice-president of the American Telephone and Telegraph Company, *chairman;* Professor Edwin F. Gay, of the economics department, and Dr. W. J. V. Osterhout, member of the Rockefeller Institute for Medical Research, to advise the president and fellows of Harvard College in making a selection among the investigations proposed by any member of the instructing, scientific or administrative staff of the university. The following have received grants for scientific research:

Irving W. Bailey, professor of plant anatomy, to study the cytology of living cambium and differentiated tissues.

Gregory P. Baxter, Theodore William Richards professor of chemistry, for two years, to enable him to continue a study of the temperature of the ice-point on the absolute scale.

Raoul Blanchard, professor of geography, to make in Eastern Canada a geographical inquiry from a human and economic point of view.

Percy W. Bridgman, Hollis professor of mathematics and natural philosophy, to enable him to continue investigations on the properties of matter under high pressure.

Emory L. Chaffee, professor of physics, and Theodore Lyman, director of the Jefferson Physical Laboratory, for an investigation of light sources and apparatus for isolating portions of the spectrum.

Lemuel R. Cleveland, assistant professor of protozoology, to permit him to study the relation of protozoa *in vivo* and *in vitro* to bacteria, and the life cycles of amebae.

William J. Crozier, professor of general physiology, for a study of the nature of central nervous processes.

Chester L. Dawes, assistant professor of electrical engineering, for a study of the electrical characteristics of ionized gas films.

William Duane, professor of biophysics, to continue researches on the physical properties of radiation, and on certain physical characteristics of living tissues.

Edward M. East, professor of genetics, for genetic researches on the genera *Nicotiana* and *Fragaria.*

Merritt L. Fernald, Fisher professor of natural history, to be used in connection with the further investigation of the relic floras of Newfoundland.

Norris F. Hall, instructor in chemistry, to be used to secure the services of an assistant and to pay for supplies to investigate the nature of acidity.

Leigh Hoadley, assistant professor of zoology, to study the early ontogenetic phenomena associated with embryonic segregation with special reference to vertebrates.

Grinnell Jones, associate professor of chemistry, to continue his investigation of the properties of solutions, inasmuch as moving his laboratory and technical difficulties have interfered with the original schedule.

Edwin C. Kemble, associate professor of physics, and Franzo H. Crawford, instructor in physics, to be spent for apparatus to continue the study of molecular spectra and the Zeeman effect in gases.

Alexander McAdie, director of the Blue Hill Observatory, to permit him to study the physics of the air, especially the thermodynamics of water vapor, and the quick determination of heights of cloud bases to enable aviators to get the speed of wind.

Noel Ewart Odell, lecturer on geology, to permit him to study dynamic metamorphism in Scotland and Scandinavia preliminary to a research on static metamorphism in mountain regions in the Canadian Rocky Mountains.

George H. Parker, director of the zoological laboratory, to permit him to spend six weeks at a marine laboratory in Florida or Bermuda, to study color changes in the skins of semi-tropical fishes.

Frank A. Pattie, Jr., instructor in psychology, to study the gregarious instinct in chickens through observations of their behavior when hatched in isolation.

Harlow Shapley, director of the Harvard College Observatory, to enable him to continue research on variable stars and the dimensions of the galaxy.

Derwent S. Whittlesey, assistant professor of geography, to enable him to study the chorography of a coastal locality in northern New England in order to make comparisons with the upland interior visited in 1926.

TESTIMONIAL TO DEAN KIMBALL, OF CORNELL UNIVERSITY

A TESTIMONIAL volume has been presented Professor Dexter S. Kimball, dean of the College of Engineering of Cornell University, by the Schenectady Section of the American Institute of Electrical Engineers. The presentation was made after Dean Kimball had delivered the fifth annual Steinmetz Memorial Lecture at Schenectady on March 8.

The lectureship was founded in 1925. The four previous lectures and their subjects were Dr. Michael I. Pupin, "Law, Description and Hypothesis in the Electrical Science"; Dr. Ernst J. Berg, "The Solution of Transient Phenomena by Elementary Mathematics"; Dr. Robert A. Millikan, "Spectroscopic Prediction," and Dr. Max Mason, "Substitutes for Experience."

The testimonial given Dean Kimball was in the form of a parchment book, bound in blue morocco, with a hand-tooled inscription. The fly-leaf, as well as the testimonial page, is hand-lettered and beautifully illuminated.

The inscription reads:

> In honor of Charles Proteus Steinmetz his friends and admirers have endowed the annual Steinmetz Memorial Lectures which are delivered by eminent scientists and engineers under the auspices of the Schenectady Section of the American Institute of Electrical Engineers.