other preliminary arrangements preparatory to actual inauguration of the work.

The twenty-eight mural paintings will show the world as it appeared during past geological ages. Each picture will represent typical life and scenery of a geological period. Dinosaurs, three-toed horses, American camels, flying lizards, coral reefs and mammoths and mastodons, all are to be represented, and with them the surroundings amid which they lived.

Supplementing these paintings will be great modeled groups of animals and plants of the past in life size. While these groups will relate chiefly to the earlier geological periods, some later representations will be included.

Dr. B. E. Dahlgren, acting curator of botany of the museum, who has made notable reproductions of plant life in the Stanley Field plant reproduction laboratories, will have charge of this phase of the work. Work has already started on one geological group, which will show part of a forest of the coal period. The strange cryptogamic plants of that day, which formed forests that later became coal, will be shown in life size, and inhabited by life-sized restorations of insects and reptiles of that time.

The entire program is under the supervision of Dr. O. C. Farrington, curator of the department of geology of the museum.

PROPOSED NATIONAL RESEARCH INSTITUTE FOR CHEMICAL EDUCATION

ESTABLISHMENT of a National Research Institute for Chemical Education with an initial endowment of $2,000,000 is planned by the Senate of Chemical Education of the American Chemical Society, according to an announcement by the chairman of the senate, Professor Neil E. Gordon, of the University of Maryland, at the society's national headquarters, Washington, D. C.

The institute would be located at some university which is doing work of a high order in both chemistry and education, but would be organized separately from either of these divisions.

Its sponsors contemplate that it shall be the great meeting place for the chemistry teachers of the world and that it shall enable chemical education to be of greater service to industry. The idea of the institute arose from the needs of this ever-changing science.

Details of the plan have been definitely worked out and will be publicly discussed by the senate at sessions to be held in connection with the society's spring meeting at Richmond, Va., to be held from April 11 to 16. The senate is composed of representatives of education and industry from every state.

The charter, it is planned, will provide for a board of seven trustees, a board of seven scientific advisers, a general director, associate directors to head the departments and research assistants. Five departments, including graduate, undergraduate, industrial, high school and historical, are proposed.

The tentative budget to be presented to the senate calls for the employment of a general director and of five departmental directors at salaries of $10,000 each. Five fellowships of $1,000 each are proposed, and provision is made for extra summer faculty lecturers at an expenditure of $5,000. The estimated cost of the building to be occupied by the institute is $500,000.

PUBLIC LECTURES ON SCIENTIFIC TOPICS

A SERIES of illustrated lectures on important developments and discoveries in various fields of engineering will be given by members of the staff of the Harvard Engineering School during the second half-year. These lectures will be open to the public, and will be given in 110 Pierce Hall on Thursday afternoons, at 4:30 o'clock, as follows:

February 17, *The story of the incandescent lamp,* PROFESSOR H. E. CLIFFORD.

February 24, *Engines for airplanes,* PROFESSOR L. S. MARKS.

March 3, *Explosives and fertilizers from the air,* PROFESSOR GRINNELL JONES.

March 10, *Electric oscillations and radio communication* (with demonstrations), PROFESSOR G. W. PIERCE.

March 17, *The development of steel structures,* PROFESSOR G. F. SWAIN.

March 24, *The world search for metallic ores,* PROFESSOR D. H. MCLAUGHLIN.

March 31, *Supplying half a billion gallons a day of drinking water,* PROFESSOR G. M. FAIR.

April 7, *Floating metals from their ores,* PROFESSOR A. E. WELLS.

April 14, *Utilization of water power,* H. M. TURNER, consulting engineer.

The Chicago Academy of Sciences announces a course of free public lectures during the winter of 1927, at the Assembly Hall on Sundays at 3:30 P. M., in accordance with the following program:

February 6, *Exploration in the Peruvian Andes,* DR. ISAIAH BOWMAN, director of the American Geographical Society.

February 13, *New explorations in Kentucky caves,* RUSSELL T. NEVILLE, Kewanee, Illinois.

February 20, *What mushroom is that?* VERNE O. GRAHAM, principal of Burroughs School.

February 27, *Vegetation and native races of E. Africa,* DR. HOMER L. SHANTZ, head of the department of botany at the University of Illinois.

March 6, *From the Mackenzie to the Yukon,* MRS. LAURIE FRAZEUR, Senn High School.

April 3, *Life secrets of wild flowers,* A. C. PILLSBURY, University of California.

Dr. Hugh Stott Taylor, professor of physical chemistry at Princeton University, gave three public lectures at the Carnegie Institute of Technology on February 7, 8 and 9. His subject was "Absorption and Contact Catalysis," "The Mechanism of Activation at Catalytic Surfaces" and "Photochemistry and Catalysis."

Other public lectures announced for February will include two public discussions by Dr. Robert Williams Wood, professor of experimental physics at Johns Hopkins University, who will talk on "The Optical Excitation of Spectra," February 17 and 18, and three lectures on metallurgical problems to be given by Dr. Cecil H. Desch, director of the department of metallurgy at Sheffield University, England, on February 21, 23 and 24. The subjects of the Desch series will be "The Crystallization of Steel," "Modern Views on Deformation of Metals" and "Diffusion in Solids."

THE JAY BACKUS WOODWORTH GRADUATE SCHOLARSHIP FUND

A FUND of $5,000 is being raised by former students and associates of the late Professor Jay Backus Woodworth, of Harvard University. To date about $1,050 has been collected with the promise of $2,000 more if an additional $2,000 is raised.

The income of this fund will be appropriated from time to time on the recommendation of the department of geology of Harvard University, as a scholarship to some worthy graduate student in geology, preference being given to the highly capable candidate who showed a natural bent for general geology and gave promise of advancing the science, especially if in the fields of glacial geology or seismology.

The committee feels that there are numerous friends and admirers of Professor Woodworth other than those who have already contributed, who would welcome the opportunity to take part in the creation of this fund in his memory, and thereby to stimulate others to do creditable work in geology.

Contributions may be sent to any member of the committee or to the treasurer of Harvard University, designated for the "Jay Backus Woodworth Graduate Scholarship Fund."

CHARLES F. BROOKS, *Acting Chairman,*
RICHARD M. FIELD,
THORNDIKE SAVILLE, *Chairman*
EDWARD WIGGLESWORTH,
T. WAYLAND VAUGHAN

SCIENTIFIC NOTES AND NEWS

DR. CHARLES D. WALCOTT, secretary of the Smithsonian Institution, died on February 9 in the seventy-seventh year of his age.

DR. CHEVALIER JACKSON, professor of bronchoscopy and esophagoscopy at the Jefferson Medical College, has been presented with the $10,000 Philadelphia award, given annually by Edward W. Bok to the person who has done the most to advance the city's interest during the year. Dr. Jackson was given the award for his invention and use of the bronchoscope.

THE degree of doctor of laws was conferred upon Dr. C. Edmund Kells by Tulane University upon the occasion of the presentation to Tulane University of the Charles Edmund Kells dental library and museum on January 19 in the Hutchinson Memorial Building, Tulane University, at which time Dr. Kells completed his fiftieth year of dental service. During this period he has made important contributions to the literature and science of dentistry.

DR. VLADIMIR FORTUNATO, sculptor of the Johns Hopkins University School of Medicine, has been awarded the U. S. Treasury Department gold medal for life-like vaccination models showing types of reactions to smallpox vaccine.

THE Botanical Society of America has elected the following corresponding members: Professor Erwin Baur, of the Agricultural High School, Berlin; Professor Robert Chodat, of the University of Geneva; Dr. L. Cockayne, of New Zealand; Professor V. Grégoire, of the University of Louvain, and Professor W. Johannsen, of the University of Copenhagen.

ACCORDING to the *Bulletin* of the American Mathematical Society, recent elections to the section of mathematics of the Reale Accademia dei Lincei, of Rome, are the following: Professor F. Severi, of the University of Rome, to national membership; Professor G. Scorza, of the University of Naples, to corresponding membership; Professor E. Cartan, of the University of Paris, to foreign membership.

THE Carnegie Hero Fund has awarded a gold medal to Dr. Honoré Vercauteren, roentgenologist, of Ghent, Belgium, who has been partially incapacitated through his devotion to the treatment of victims of occupational accidents.

DR. MAX PLANCK, professor of mathematical physics at the University of Berlin, has retired.

IN connection with the recent meeting of the Geological Society of America in Madison, Wis., Dr. T. C. Chamberlin, emeritus professor of geology at the University of Chicago, now in his eighty-third year, was the guest of honor at a luncheon given by eighty of his students and friends.

JOSEPH MAILLIARD has resigned his position as curator of the department of ornithology and mammalogy of the California Academy of Sciences, to