

was more than 2,240,000. Use of the museum library by students and by the public in general increased; more than 93,000 natural history books and pamphlets are now available on its shelves. A new and greatly improved cafeteria was built and opened to the public in the museum building. Reports are included of the Field Museum-Oxford University Joint Expedition to Mesopotamia which is excavating on the site of the City of Kish; the Suydam Cutting zoological expedition to Sikkim, India; a zoological expedition to Indo-China conducted for the museum by Mr. George F. Ryan and Mr. George G. Carey, Jr.; a zoological expedition to central Africa conducted by Captain Harold A. White and Major John Coats; the Marshall Field Zoological Expedition to China; the Third Marshall Field Archeological Expedition to British Honduras excavating ancient Maya sites, and the Field Museum Archeological Expedition to the Southwest excavating prehistoric Indian ruins in Colorado.

CALIFORNIA ACADEMY OF SCIENCES EXPEDITION TO REVILLAGIGEDO ARCHIPELAGO

THE director of the museum and of the Steinhart Aquarium of the California Academy of Sciences, Dr. Barton Warren Evermann, writes that, on the evening of March 10, the *Zaca* passed out through the Golden Gate to enter on a protracted cruise among the Revillagigedos and other islands off the Pacific Coast of Mexico, Central America and Ecuador, in the interest of the California Academy of Sciences. The *Zaca* is the private yacht of Mr. Templeton Crocker, of San Francisco, who is deeply interested in the scientific and educational activities of the academy of whose board of trustees his father, the late Colonel Fred Crocker, was president for many years. The expedition will be known as the Templeton Crocker 1932 Expedition of the California Academy of Sciences. Among those on board besides Mr. Crocker are the following: Captain Garland Rotch, commanding officer; Dr. Albert E. Larsen, ship's doctor; Harry S. Swarth, ornithologist and mammalogist, naturalist-in-charge; John Thomas Howell, assistant curator of the academy herbarium, botanist; H. Walton Clark, assistant curator of the department of fishes, aquatic zoologist and ichthyologist; Robert J. Lanier, assistant superintendent of the Steinhart Aquarium of the California Academy of Sciences, fishery expert; Toshio Asaeda, artist and official photographer, and Maurice Sheppard Willows, Mr. Crocker's secretary, entomologist.

Mr. Swarth recently completed a technical report (Occasional Paper No. 18, California Academy of Sciences) on the land birds of the Galapagos Islands, based upon a critical study of the large collection of

8,691 specimens of birds collected on the 1905-1906 expedition of the California Academy of Sciences to the Galapagos Islands, and the material from those islands in the British Museum and in that at Tring. On the present expedition he will pay special attention to the habits, life histories and ecological relations of the various species. Dr. Larsen will pay special attention to the intestinal and other parasites of the elephant seal and other mammals. Messrs. Clark and Lanier will collect the fishes and other aquatic species. They hope to bring back several large tanks of live tropical fishes for the Steinhart Aquarium, and large series of specimens preserved in alcohol of the fishes, mollusks and crustaceans found in the various regions visited. They will also make complete collections of all obtainable species of marine algae which will be turned over to Drs. Setchell and Gardner, of the University of California, for study and report.

Mr. Howell will study the flora of the various islands and goes prepared to make large and valuable additions to the academy's herbarium already rich in materials from these islands. Mr. Willows will pay special attention to the Lepidoptera, Hemiptera and Coleoptera, groups not well represented in museums in collections from any of these islands. Mr. Asaeda, who was artist and photographer of the recent expedition which Mr. Zane Grey made to tropical islands in the Pacific, is not only a high class artist but also an expert color photographer. He has had much experience in painting fishes and other aquatic animals in life colors.

Mr. Crocker and Captain Rotch also are skilled in moving picture photography. On a short visit to Guadalupe Island last November for the academy, they obtained very interesting reels depicting life of the wonderful elephant seal herd found there.

The present expedition is made possible by Mr. Templeton Crocker because of his interest in the California Academy of Sciences and his desire to assist scientific research through the academy's research departments.

It goes equipped for collecting in all fields of vertebrate zoology and in botany, and will cover the fauna and flora of both land and sea as fully as possible. Specially constructed electrically-lighted traps that can be let down to a depth of one thousand feet will be used for capturing deep sea fishes that, it is hoped, may be attracted by the light. Special dredges that may be dragged on the bottom or at intermediate depths, have been provided. Provision has been made also for regulating the water in the live tanks so that fishes and other species intended for the aquarium can be brought back alive.

This is the second expedition Mr. Crocker has

financed for the academy, the first being that to Guadalupe Island last November. A third expedition chiefly in the interest of the academy was that of Captain G. Allan Hancock's cruiser *Valero III*, to the Galapagos Islands last winter (December to February), with Mr. Alvin Seale and Dr. Leo George Hertlein on board representing the academy.

AWARDS OF THE ELIZABETH THOMPSON SCIENCE FUND

PREVIOUS awards from the Elizabeth Thompson Science Fund have been reported in *SCIENCE*, November 25, 1931, and earlier. Since the last report the following awards have been made:

At the Meeting of February 25, 1932

- No. 305 to E. D. Merrill, New York Botanical Garden, \$50 to obtain translations of Japanese literature published in Japanese characters, and with Japanese titles, necessary for the preparation of an exhaustive bibliography covering the botanical literature pertaining to Eastern Asia.
- No. 306 to W. J. Hamilton, Jr., Zoological Laboratory, Cornell University, \$100 toward expenses in making observations on long-tailed shrews of the genus *Sorex*.
- No. 307 to K. K. Landes, University of Kansas, \$200 for aid in the study of pegmatite mineral deposits in Colorado and New Mexico.
- No. 308 to Carroll Lane Fenton, West Liberty, Iowa, \$300 for aid in undertaking the study of a certain group of fossils already described long since but needing a careful re-study to fit them into the whole system of corals.
- No. 309 to G. H. Burrows, University of Vermont, \$100 for aid in purchasing chemicals and minor pieces of apparatus to be used in the determination of equilibria among reactions of organic chemistry.

The Trustees of the Elizabeth Thompson Science Fund meet ordinarily during the last ten days of the months of February, May and November. Applications for grants should be sent well in advance of the meeting to the secretary of the fund, Dr. Edwin B. Wilson, 55 Van Dyke St., Boston, Massachusetts.

GEOPHYSICAL RESEARCH AT HARVARD UNIVERSITY

AN account is given in the *Harvard Alumni Bulletin* of a project for geophysical research undertaken by the university which will concentrate at the start on data of basic value in seismology, in particular the study of the properties of certain rocks and rock minerals under very high pressures and at high temperatures. The investigation will continue for five years.

The plan is made possible by a gift of \$50,000 from the Rockefeller Foundation, \$10,000 each year, contingent on the raising of an equal amount from friends of the Harvard departments concerned. The necessary amount for the first year has been obtained from the latter source, and a substantial amount pledged for the other four years.

The work will be administered by the division of geology, under the guidance of an inter-departmental committee consisting of Professor R. A. Daly, of the division of geology, chairman, and Professors P. W. Bridgman, of the physics department, L. C. Graton, of the Engineering School, Harlow Shapley, of the Astronomical Observatory, and D. H. McLaughlin, of the division of geology.

In acknowledging the gift, the committee said: "The opportunity to undertake work in this important field, which is made possible for a period of five years by the generosity of a small group of loyal friends of the university and by the encouraging and stimulating assistance of the Rockefeller Foundation, is a gift of very real value to Harvard."

To accomplish the difficult task of combining high pressures with high temperatures, apparatus is now being designed by Professor Bridgman, under whose direction the research on the elastic properties of rocks and the effects of high temperature and pressure will be carried out. Field measurements of the velocity of seismic waves in rocks of different types are already under way by means of artificially-produced earthquakes of small scale, in carefully selected localities where geologic details are accurately known.

Research will later be undertaken for an improvement of the records of distant earthquakes and in the methods of interpretation thereof.

SCIENTIFIC NOTES AND NEWS

THE fiftieth anniversary of the announcement by Robert Koch before the Berlin Physiological Society on March 24, 1882, of the cultivation of the tubercle bacillus, was celebrated on March 24 at the Rockefeller Institute for Medical Research in New York. The speakers were Dr. Theobald Smith, Dr. Karl Landsteiner and Dr. Simon Flexner.

DR. R. A. DALY, of Harvard University, has been awarded the Hayden Memorial Gold Medal for 1932 of the Academy of Natural Sciences of Philadelphia in recognition of his studies of igneous rocks, the constitution of the earth and other geological researches. The presentation will be made at a meeting of the academy this month.