umes of air. This has been an exploration in a field of great technical importance, but of little exact knowledge. The work already done has had considerable influence on existing practise.

(3) Studies of dielectrics and high-voltage cables. These have led to the discovery of new laws relating power loss and power factor to voltage, frequency, and temperature in dielectrics; and to the determination and rationalization of the laws of ionization loss in high-voltage cables. As a result of these researches, improvements in manufacturing and in testing dielectrics and high-voltage cables have occurred, and the life of properly designed cables has been materially increased.

(4) Fundamental studies of the flow of water through sand and other filtering materials. This work is aiding engineers in the exploitation of ground waters and in the interpretation of the behavior of water filters.

(5) Studies of the effect of corrosion on the carrying capacity of water pipes composed of different materials. These studies evaluate in hydraulic terms the destructive effects of water on the metallic conduits through which it is distributed.

(6) Studies of the factors governing the destruction of the complex organic substances contained in municipal wastes. These have paved the way for more economical design and operation of waste treatment plants.

(7) Studies of the control of dust generation in the construction industries (in cooperation with the School of Public Health). This work is leading to the development of non-hazardous drilling operation.

(8) Fundamental studies of age-hardening in steels and non-ferrous alloys; of the graphitization process in cast iron; and the hardness of the adjacent parent metal, and of the secondary and mosaic structure of single metal crystals. Work in the development of the "Reflex-Laue" method of x-ray crystal analysis. These studies have been of great importance to the metal industries.

THE MANGAREVAN EXPEDITION OF THE BERNICE P. BISHOP MUSEUM

THE Bernice P. Bishop Museum welcomed on October 28 the members of the Mangarevan Expedition returning to Honolulu aboard the specially designed sampan *Islander* from six months' field work in southeastern Polynesia. The *Islander* brought home the natural history party: Dr. C. Montague Cooke, Jr., malacologist and leader; Dr. Harold St. John, botanist; Mr. Elwood Zimmerman, entomologist; Mr. Donald Anderson, assistant malacologist; and Mr. Raymond Fosberg, assistant botanist. Still at work in the field is the anthropological party, Dr. Peter H. Buck, Kenneth P. Emory and J. Frank Stimson, aboard the cutter yacht *Tiare Tahiti* which will be released at Papeete, Tahiti, about January 1.

The Mangarevan Expedition was organized for the exploration of little-known islands and atolls in extreme southeastern Polynesia. Of the thirty-one islands and many atolls and reefs on which the party landed, particular attention was given to Anaa, Napuka, Tatakoto, Hao, Mangareva, Timoe, Pitcairn, Henderson, Oeno, Rapa, Raivavae, Rurutu and Rimatara. Surveys supplementing those made by Bishop Museum in previous years were conducted at Tubuai, Tahiti, Raiatea, Huahine and Borabora.

The program of the expedition stressed investigations in botany, ethnology, malacology and entomology, with incidental attention to geography, geology and marine zoology—a procedure that guided the selection of the professional personnel and numerous assistants.

To gain access to atolls and cliff-bound volcanic islands a ship of high power and shallow draft was designed, and to permit the party to divide its forces for particular kinds of work a transfer ship and power launches were provided. The expedition was made possible by generous grants from the Rockefeller Foundation and from institutions and individuals in Hawaii.

Regarding the results of the expedition Professor Herbert E. Gregory, director of the museum, states that: "Under the experienced leadership of Dr. C. Montague Cooke, ably supported by Captain William Anderson, of the *Islander*, the program of the expedition was carried out with marked success. The collections, which include some 15,000 sheets of plants, 40,000 insects, 160,000 land shells and representative series of other animals, is sufficient to give a fairly complete picture of the land fauna and flora of the southeastern Pacific, and to indicate the relation of the oceanic islands to South America. The expedition practically completed the general survey of the ethnology and natural history of Polynesia which has been the chief interest of the museum since 1920."

THE INTERNATIONAL PHYSIOLOGICAL CONGRESS FUND FELLOWSHIPS

THE International Physiological Congress Fund Fellowships were established by the Federation of American Societies for Experimental Biology following the session of the thirteenth International Physiological Congress in Boston in 1929. The committee for the congress presented the surplus of the funds collected, to the federation, with the suggestion (1) that if and when another International Physiological Congress was held in this country the principal be used for the promotion and support of that congress, and (2) that the income of this fund be appropriated triennially, in units of $250, to defray the expenses of promising young American workers in the field who would not otherwise be able to attend International Physiological Congresses abroad and who had creditable papers to read before the congress. Membership in the federation is not a necessary condition for the award of a fellowship.