

Mr. Pendred recalled some of the historic vessels and a few of the notable inventions connected with marine propulsion in the early days of steam navigation, he avoided the well-trodden path which leads to the epoch-making ships connected with ocean travel or with fighting fleets, and turned aside to consider the development of ships designed especially for cargo carrying. These he said are "the lesser vessels which do the come-day go-day work of the world; the tramps and freighters slogging their patient way across the Bay, facing typhoons in the China Sea, picking their courses 'twixt Scylla and Charybdis, nosing themselves into little ports looking for cargoes; never certain where next their lawful occasions may take them". By means of curves of tonnage, horse-power, speed, steam pressures and the like, he endeavoured to show how, in these as in all ships, economy has been attained. In 1887 a typical tramp had a displacement of 4,840 tons; in 1896, 7,075 tons; in 1911, 10,000 tons and in 1928, 12,380 tons; and during this time the coal consumption per knot per ton dead weight carrying capacity had fallen 40 per cent. To those who would call a halt to invention he said, "not the wills of all the anti-mechanization people in the whole world will check for a fraction of a second the wheel that began to spin a hundred and forty years ago when James Watt produced the rotative steam engine". Further economy in cargo ships must be and will be sought.

The Waitaki Hydro-electric Installation, New Zealand

THE opening on October 26 by Lord Bledisloe, Governor-General of the Dominion of New Zealand, of the hydro-electric power station near Kurow, on the Waitaki River in the South Island, was the occasion of an imposing ceremony attended by the Prime Minister (the Right Hon. G. W. Forbes) and other ministers and public men. It was a noteworthy event in the annals of the country, being the inauguration of the largest installation of water-power so far developed there. The following brief details of the undertaking are extracted from the *Wellington Evening Post*. The total length of the impounding dam is 1,800 ft., with a spillway 1,200 ft. long. The structure, which contains half a million tons of concrete, has a maximum height of 120 ft. and a base width of 145 ft. The power house, 350 ft. long, 150 ft. wide and 130 ft. high, is an integral part of the dam and provides for the reception of five turbo-generators, each of 23,000 horse-power, of which only two, as yet, have been installed. Lord Bledisloe in his address said that electric supply is available to no less than 94 per cent of the total population (a percentage probably not exceeded in any other country in the world) with an average consumption per capita of about 500 units per annum. The total capital invested in electrical supply undertakings in New Zealand is £32,000,000, of which £28,000,000 has been expended during the last eleven years. During the same period, Government expenditure has amounted to £10,500,000. The average cost of current for ordinary domestic purposes is 1.31d. per

unit as compared with 1.30d. in Great Britain and 1.39d. in the United States. Lord Bledisloe urged a fuller recognition of the complementary possibilities of user on the part of urban and rural consumers, and the extent to which one could assist the other.

Mangarevan Expedition of the Bernice P. Bishop Museum

ON October 28, Bernice P. Bishop Museum welcomed the natural history party of the Mangarevan Expedition returning to Honolulu aboard the specially designed sampan *Islander* from six months' field work in south-eastern Polynesia. The Mangarevan Expedition was organised for the exploration of little-known islands and atolls in extreme south-eastern 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. To gain access to atolls and cliff-bound volcanic islands, a ship of high power and shallow draught 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 expedition, Prof. Herbert E. Gregory, director of Bernice P. Bishop Museum, remarks: "Under the experienced leadership of Dr. D. 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."

Third International Locust Conference

IT is not unusual for proceedings of international scientific congresses to be published some months, or even years later, but this cannot be said with regard to the Third International Locust Conference held in London in September (see *NATURE*, 134, 484, Sept. 29, 1934). The volume of its proceedings was issued by H.M. Stationery Office two months after the Conference. It is a very compact publication which contains in its 184 pages a mass of first-hand and thoroughly up-to-date information on the locust problem. The official part of the proceedings occupies only a relatively small portion of the volume, while the bulk of it consists of papers presented by various experts. The papers deal with all sides of the locust problem in a very brief and concise manner, discussing the most important points to be investigated