himself to his scientific colleagues by the help that he was ever ready to render them in their investigations. His death causes a severe scientific loss and removes a personality which had extended its kindly influence to all the continents.

T. W. V.

KAMAKICHI KISHINOUYE

DR. KAMAKICHI KISHINOUYE, professor emeritus of fisheries in the faculty of agriculture in Tokyo Imperial University, died on November 22, 1929, at Chengtu, Province of Szechuan, China, while collecting fresh-water fishes in the upper part of the Yangtze-Kiang. He started from Tokyo last August on an expedition to collect fishes along the Yangtze-Kiang and had been successful in obtaining much material, but was attacked with some alimentary disorder and died on November 22.

Professor Kishinouye was in several lines of work one of the leading scientific men of Japan. He published a number of papers on the Alcyonarian corals, paying special attention to those that produce coral of commercial value. He studied numerous problems of the life history of Japanese fishes and was especially well known for his investigations of the scombroid (mackerel) group. He was the author of a volume entitled "Contributions to the Comparative Study of the So-called Scombroid Fishes," published in the *Journal* of the College of Agriculture of the Imperial University of Tokyo, Volume 8, No. 3, 1923.

Professor Kishinouye attained high scientific recognition in his native country, being a member of the Imperial Academy of Sciences. Besides being a man of scientific distinction he possessed great personal charm and was a good example of the courteous Japanese gentleman of the old school.

T. W. V.

RECENT DEATHS

DR. LEA MCILVAINE LUQUER, tutor and associate professor of mineralogy at Columbia University from 1887 to 1925, died on January 30, at the age of sixty-four years.

DR. J. FRED MOHLER, for thirty-three years professor of physics at Dickinson College, died on January 28 at the age of sixty-five years.

WILLIAM WALLER CARSON, professor emeritus of civil engineering at the University of Tennessee, died on February 7, at the age of eighty-four years.

DR. THORBURN BRAILSFORD ROBERTSON, professor of physiology and biochemistry at the University of Adelaide, died on January 27 at the age of forty-five years.

SIR GEORGE DANCER THANE, the British anatomist, died on January 14 at the age of seventy-nine years.

DR. YOSHIAKI OZAWA, professor of paleontology at the Imperial University of Tokyo, died on December 29. Dr. Ozawa had returned to his work in Japan this last summer after two years of foreign study in Europe and the United States.

DR. BENEDIKT DYBOWSKI, professor of zoology at Lwow University, died on February 1, at the age of ninety-five years. After being exiled to Siberia for participating in the 1863 insurrection in Poland he undertook a study of fauna from Lake Baikal to Kamchatka.

SCIENTIFIC EVENTS

AGRICULTURE IN THE BRITISH EMPIRE

THE nineteenth annual report of the British Development Commissioners for the year ended March 31, 1929, deals, according to a report in the London *Times*, with a large range of questions affecting agriculture, rural economy, fisheries and harbors, the compulsory acquisition of land for road improvement, and the financial position of the development fund.

The total advances from the development fund recommended during the year amounted to £394,752, compared with £383,652 in 1927–28. The administrative expenses of the commission amounted to £9,315, compared with £9,887 in the preceding year.

Since the commissioners' last report eight bureaus have been established in accordance with the recommendation of the Imperial Agricultural Research Conference in 1927. Their purpose is to collect and disseminate information of a scientific character on various branches of agricultural research. Their establishment so soon after the meeting of the conference is a matter for congratulation, the commissioners remark, because of the assistance they will give to scientific workers in different countries. But the benefit to individual and isolated workers is not the only reason for which the bureaus are welcomed. Since they are the result of joint action taken by a number of empire governments, will be controlled by a representative empire committee, and financed by empire contributions, the bureaus are to be welcomed as a first—and it is to be hoped only a first—step in a policy of cooperation by the governments of the empire for the promotion of agriculture by enlisting scientific aid.

It is estimated that £22,000 per annum will be required to maintain the bureaus, and this sum is being raised by proportionate contributions. The contribu-

tion of England and Wales has been assessed at £3,125, and that of Scotland at £500. The commissioners have recommended payment of these home contributions from the development fund, in view of the advantages which British agricultural investigators will derive from participation in the scheme.

While it is unquestioned, the commissioners add, that advantages will accrue to agricultural science in this country from the creation of the bureaus, it is anticipated that still greater advantages will be derived from them by oversea workers. It is not only because of the dominating position which agriculture holds in the national economy of oversea countries that their representatives pressed for the bureaus. If this had been the main reason the proposal would have been made many years ago; for in some countries at least the need of a central organization has long been recognized. The immediate cause of the demand made at the conference was the clear realization by empire workers that the mother country is now in a position to offer them substantial aid. The institutions which have been built up as a result of the creation of the development fund in 1909 are taking a leading place in the application of scientific research to agriculture and Britain can offer, as twenty years ago it could not, much valuable guidance for those attempting to improve agricultural practice in the oversea empire.

CARNEGIE-AUSTRALIAN-HARVARD EXPEDITION TO NORTHWESTERN AUSTRALIA

UNDER the combined auspices of the Carnegie Institution of Washington, which made the original grant, the Australian National Research Council, which made a generous supplementary grant, and the Museum of Comparative Zoology, Harvard University, Professor Hubert Lyman Clark, of the museum, has just completed an important investigation of the echinoderm fauna of the northern and western coasts of Australia. Leaving Cambridge in the spring, accompanied by Mrs. Clark, who has served as artist and general assistant, Dr. Clark attended the Pan-Pacific Scientific Congress in Java in May, as delegate from Harvard University and the American Society of Naturalists. After three weeks in Java, he and Mrs. Clark went to Darwin, N. T., where they arrived on June 13 and a few days later were joined by Mr. Arthur A. Livingstone, of the Australian Museum, who continued with them until the party reached Perth, a most willing, competent and congenial assistant.

At Darwin the collecting was poor, especially along shore, owing to the large amount of sediment in the water which tends to form a muddy deposit wherever it is not kept scoured off by tidal currents. During the more than six weeks spent at Darwin only sixty-five species of echinoderms were found, though excursions to points from six to thirty-five miles distant were undertaken. Of the sixty-five species, not a dozen could be called at all common. On July 29 the party left Darwin and went to Broome, W. A., with brief stops at Wyndham and Derby on the way. These stops were long enough to show that local conditions at those ports were even more unfavorable for echinoderms than at Darwin, owing to the muddy water. At Broome, however, where two months were spent, the water is ordinarily very clear and marine life is extremely abundant. As local conditions are very varied and the tidal range very great (up to thirty feet and even more), Broome is a paradise for the marine zoologist. As the pearl-shell fishery is the one essential occupation, the local boats with their divers provide an unusual and important means of securing zoological material. Excursions were made from Broome, to Cape Levéque lighthouse, 142 miles to the northeast, and to La Grange Bay, Anna Plains and Wallal, 150 miles to the southwest. Altogether more than 170 species of echinoderms were secured in this region, many of which are apparently as yet undescribed.

On October 1 the party left Broome for Perth. There was a short stop at Onslow which yielded nothing and a day at Geraldton which yielded a few interesting species. At Perth, a stay of nearly three weeks, with important excursions to Rottnest Island and Bunbury proved most rewarding. The cooperation of the museum, university and government officials was generous and helpful to the last degree. Similar but briefer stops were made at Adelaide, Melbourne, Hobart, Sydney and Brisbane, and at all these places the courtesies extended knew no limits and the cordial cooperation shown was overwhelming. At Adelaide and Melbourne opportunities were given for examining both in the field and in the museums many of the fossil echinoderms of Australia, chiefly Tertiary. The cooperation of the Australian Museum at Sydney has been constant and most cordial during the whole investigation. Nothing has been left undone by Australian scientists which could further Dr. Clark's researches in any way. As a result of this hearty cooperation, it has been possible to study in life, under normal environmental conditions, some three hundred species of Australian echinoderms, about three fourths of which were seen on the northwestern coasts of the continent, a region hitherto a *terra incognita* to the marine zoologist.

THE GEORGE WILLIS PACK FORESTRY FOUNDATION OF THE UNIVERSITY OF MICHIGAN

THE promotion of practical forest land management in the broadest sense of the term is the object