side with the first image. Both images are picked up by a reading telescope, and their relative displacement when the shaft is twisted may be read easily. The advantage of the instrument lies in the fact that the scale, as well as the optical parts, rotates with the shaft, and the reading telescope requires but little adjustment. Other types in which the scale does not rotate, require considerable adjustment in a place, viz., the shaft-tunnel, where adjustment is not easy to carry out.

Other papers read dealt with the stability of ships in damaged conditions, and the rolling of ships. Mr. H. E. Wimperis described his instrument for the measurement of velocity of roll, which depends for its action on a small electrically-driven gyrostat.

PAPERS ON INVERTEBRATES.

A REPORT on the Crustacea Schizopoda, collected by the Swedish Antarctic Expedition, 1901–3, has been published, in 4to form, by G. E. C. Gud, of Copenhagen. In his preface, the author, Mr. H. J. Hansen, states that this memoir, which is illustrated by six plates, should be regarded as a further contribution to his account of the Mysidacea and Euphausiacea (the two main groups of the Schizopoda) of the world. A considerable number of new

Two Calyces of Scyphocrinus. From Proc. U.S. Nat. Mus.

species are named, and revised descriptions of others previously known to science given, but as these appeal only to specialists, they must be passed over without further mention.

Of more general interest is Mr. R. S. Bassler's description (Proc. U.S. Nat. Mus., vol xlvi., pp. 57–9) of a remarkably fine slab of fossil crinoids from the Middle Palæozoic strata of the Mississippi Valley, north of Cape Girardean, Missouri, which has recently been placed on exhibition in the American Museum. This slab, measuring 4 ft. by 7 ft., contains eighteen complete crowns of Scyphocrinus, two of which are shown in the accompanying illustration, together with a number of bulbs of the so-called Camarocrinus; the latter, as pointed out by Dr. Bather, really pertaining to the former. In some of the specimens the crown, or calyx, retains to some extent its original globular form, but in the majority it has been flattened by contact with the Camarocrinus bulbs. The strong, many-branched arms, are frequently a foot in length.

The first American representative of the umbrella-shaped sponges of the genus Cœloptychium is described by Messrs. Shimer and Powers in vol. xlvi., pp. 155–6, of the Proc. U.S. Nat. Mus., under the name of *C. jerseyense* As the type specimen was obtained from the Upper Cretaceous of New Jersey, it is strictly contemporaneous, in the geological sense, with the European forms of the genus to which it is provisionally referred. The American species is characterised by the rounded, in place of flattened, margin of the umbel.

Hitherto the number of species of oligochætous annelids known from Jersey was only eleven, all belonging to the earthworm family (Lumbricidæ). A collection, including fresh-water forms, recently received from the island has, however, enabled the Rev. H. Friend, in an article published in *The Zoologist* for December, 1913, to raise the number of known species to fifty, of which three are described as new. Of the fifty species, the Enchytræidæ claim thirty-one, the Lumbricidæ seventeen, and the Lumbriculidæ and Megascolecidæ one each.

R. L.

METEOROLOGICAL REPORTS.

THE report of the Meteorological Service of Canada for the year 1909 (pp. xxi+567 and plates), has been published recently. The large mass of data furnished by this extensive system is arranged in tables giving (1) monthly and annual summaries; (2) bi-hourly and hourly temperature and barometric pressure; (3) mean and extreme temperature, daily range, rainfall, etc.; (4) daily observations from selected stations; and (5) magnetic results at Agincourt Observatory. Some of the results of observations at the Central Observatory at Toronto were quoted in NATURE of September 7, 1911. The report includes a brief monthly summary of the weather over the whole Dominion, and tables showing the number of weather forecasts and percentage of fulfilment in each district and month. The general percentage of fulfilment amounted to 86·8, after making due allowance for forecasts only partly verified.

The annual reports of the Philippine Weather Bureau for 1910 (parts 1 and 2), containing hourly meteorological observations at Manila, and for 1909 (part 3), containing observations at secondary stations have recently been published. Father Algué states in the preface to part 1:—"Were it not for a few exceptions, the history of the Weather Bureau for the fiscal year 1910 might have been condensed into the three words, 'Everything as usual.'" This statement practically holds good with regard to all the parts; the most interesting details relating to typhoons, storm-warnings, earthquakes, etc., are contained in the Monthly Bulletins, to which we have frequently referred. The number of earthquakes felt in the Philippines during the fiscal year 1910 amounted to 121, exclusive of many microcosmic movements. The most important far-distant earthquakes recorded were those in Mexico, Baluchistan, and Greenland. A new magnetic observatory has been established at Antipolo, about eleven miles east of Manila, owing to the disturbance caused by the electric railroad at the latter place.