TWO REPORTS ON MARINE INVESTIGATIONS.[1]

THE staff responsible for scientific investigations and administration of fisheries under the Department of Agriculture and Technical Instruction for Ireland is attacking its problems with insight and energy, and is laying up a store of information of permanent value and interest. It is somewhat startling at this stage to note that Mr. Holt finds it necessary in his report on international investigations to expound the wherefore of hydrographical and plankton investigations and their bearing upon practical fishery problems. He states the case clearly and well, pointing out the necessity of studying the variations in the "annual ocean tide," of investigating the relation between salinity and plankton distribution, and of determining how far plankton conditions the abundance or absence of pelagic fishes, and hence may be taken as a guide in practical fishery pursuits. The ultimate end is the foretelling of physical conditions—favourable or unfavourable—from knowledge of prior causative factors, and thus preventing blindly tentative and unremunerative fishing operations. This research is of primary importance to Ireland, the staple fisheries of which are for the pelagic and plankton-eating mackerel and herring. The report further deals with the trawling survey of the deep-water grounds off the south-west coast, with mackerel and herring fisheries, oyster and other bivalve fisheries, and their artificial culture by the Department.

In connection with inland fisheries, a valuable fund of information is afforded by the publication of a summary of reports from many different local observers as to the migrations, abundance, and condition of salmon, grilse, and smolts. Local observations relating to the movements of eel fry up the Irish rivers are similarly collated.

Among the papers comprising the appendix is a second report on the Copepoda of the Irish Atlantic slope, by Mr. G. P. Farran, which deals with a total of 164 species, thirty of them being new and three being made types of new genera. The same naturalist writes on the distribution of the Thaliacea and Pyrosoma in Irish waters, discussing their occurrence in relation to hydrographical factors.

In collaboration with Mr. L. W. Byrne, the scientific adviser to the Department contributes a second report on the fishes of the Irish Atlantic slope, containing detailed descriptions and figures of Scorpænidæ and Alepocephalidæ, and a further list of recent additions to the British-Irish fish fauna. Two further appendices are the result of pioneer work under the auspices of the Ulster Fisheries and Biological Association: one by Mr. Geo. C. Gough on the bottom deposits of Larne Lough, and the other by Mr. H. J. Buchanan-Wollaston on the simple ascidians of the Larne district.

The volume on marine investigations in South Africa is a continuation of the reports on South African marine biology published by the Cape Department of Agriculture under the editorship of Dr. J. D. F. Gilchrist, Government biologist of the colony. Various groups of marine animals containing several new species of great interest form the subject of eight papers written by authorities, and well illustrated with thirty-five plates. Dr. Gilchrist's paper on new South African fishes adds to our knowledge of the deep-water forms two genera of Zeidæ and a new species of a genus already described for these waters, viz. Cyttosoma, which may be the adult of Cuvier and Valencienne's Oreosoma. A third new genus and five new species from the same locality are also described. Among notes on other deep-sea forms, perhaps the most interesting observations are in reference to sexual dimorphism in *Scopelus coccoi*, the males of which bear luminous scales on the upper side of the caudal region and the females on the lower side of it. Of shallow-water forms new species are described in the families of Scorpænidæ, Mugilidæ, Pleuronectidæ, and Clupeidæ. The Pelecypoda are dealt with by Mr. G. B. Sowerby, who describes thirty-three species new to science. A continuation of the report on Crustacea, by the Rev. Thos. R. R. Stebbing, contains accounts of further species—some showing remarkable characters as regards pigmentation and luminous organs—of Macrura, Brachyura, Schizopoda, and the interesting parasitic copepod *Penella orthagorisci*. Mr. P. T. Cleve adds to his plankton contributions a report on the Halocypridæ, Cypridinæ, and pelagic Annelida and Chætognatha. A new Cephalodiscus is described in minute detail by Dr. W. G. Ridewood, who includes in his paper a key to the identification of the seven species of this genus now known. A short paper by Prof. F. Jeffrey Bell describing three new crinoids is marred by three different renderings of the specific name of a new Antedon (presumably *A. magnicirra*). Still a fourth variation of spelling appears in the index!

[1] Report on the Sea and Inland Fisheries of Ireland for 1906. Part ii., Scientific Investigations. Pp. xiv+274. [Cd. 4405.] (1909.)
Marine Investigations in South Africa. Vol. iv. Pp. 196. (Cape Town, 1908.)

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

CAMBRIDGE.—The syndicate appointed to consider the steps to be taken for the erection of a building for the Department of Agriculture reports that the erection of the building is now practically completed, and the fittings sanctioned are in a forward state. The syndicate anticipates that the building will be ready for occupation by the department at the beginning of the Lent term of 1910.

At a Congregation to be held on Thursday, December 9, at 2 p.m., it is proposed to confer the degree of Doctor of Science, *honoris causa*, upon Mark Aurel Stein.

A short address will be given at the Cavendish Laboratory on Monday, December 6, at 5 p.m., by Mr. G. F. C. Searle, on a course of experimental lectures on geometrical optics specially designed for candidates for the mathematical tripos, which has been arranged for the Lent term, 1910. A number of experiments, with very simple apparatus, illustrating the principles of geometrical optics will be shown. The attendance of mathematical teachers and others interested in the subject is invited.

MR. B. N. WALE, senior lecturer in agriculture at the South-eastern Agricultural College, Wye, has been appointed principal of the Seale-Hayne Agricultural College in Devonshire.

THE London University College Committee will shortly proceed to appoint a Derby scholar in zoology. The value of the scholarship is 60*l.* per annum, tenable for two years. Candidates must have been students of University College in zoology. Full particulars can be obtained from the secretary.

THE Lord Mayor has arranged a conference at the Mansion House on December 3, at 3 p.m., for the discussion of the question of industrial training in education, the development of trade schools, the position of apprenticeship and of the apprenticeship charities, and the establishment of employment bureaux to bring children leaving school into touch with employers of labour. The chairman and members of the London County Council are expected to be present.

A SUMMARY of the returns made to the Education Committee of the London County Council of attendances for the four weeks ended October 30 last at the polytechnics, technical institutes, and schools of art aided by the Council gives some striking results. The returns deal with ten polytechnics and twenty other institutions. In the polytechnics by October 30 last 20,820 individual students were enrolled since the beginning of the session, as compared with 26,410 in attendance for February last. The average number of student attendances a week was, for October, 61,158, and for February, 51,919. In the technical institutes and schools of art together, the grand total of individual students enrolled since the beginning of the session was, for October, 28,558, and for February, 35,911; the average number of student attendances a week were 73,482 and 62,357 respectively. It would appear from these numbers that the interest and enthusiasm of the students flag as the session advances, or else that the counter attractions of the winter prove too strong for a number of students.

THE October number of the Journal of the Association of Teachers in Technical Institutions contains the report