with sulphuric acid. After ten years of operation the boiler is in perfect condition, whereas a similar plant using, apart from the water treatment, identical conditions, was condemned after nine years.

It is clear, however, that the treatment must be done under expert supervision. The same applies equally to the addition of aluminium or magnesium sulphate. This treatment is very effective when used in connexion with settling tanks and filters which remove the possibility of scale-forming ingredients entering the boiler, but if used in excess, the salts are distinctly harmful and the quantities added need careful control. Undecomposed sodium carbonate acts as an inhibitant, and cases are on record where the sulphate-carbonate ratio of the water was exceedingly low without any indications of brittleness due to high sodium carbonate content. It is, however, well to regard the carbonate as the potential source of the hydroxide. The authors finally consider that the best ratio to adopt as standard in water treatment for boilers is that of the combined sodium sulphate and carbonate to the hydroxide. Although they are not yet prepared to suggest hard and fast figures, they believe that when this ratio exceeds 2, it is sufficient to stop the embrittlement. F. C. T.

Whales and Dolphins.[1]

THE scientific heads of the British Museum for many years (just as Dr. R. Knox, Prof. Goodsir, and Principal Sir William Turner did in the northern capital) have devoted much attention to the cetaceans, as seen in Dr. Gray's Catalogue, Sir R. Owen's *Kogia*, and the important publications of Sir William Flower—to whom the public owe the interesting Whale Gallery at the Natural History Museum, South Kensington, with drawings from life by his daughter. It was, however, reserved to the director who has just retired, Sir Sidney Harmer, to systematise the means for obtaining information of all the species—of this most intelligent and interesting as well as much persecuted group—caught or stranded on British shores. In the publication before us he has further added to the indebtedness of the public and men of science by summarising the results of his labours, which, by aid of the officials of the Board of Trade and others, have largely extended our information.

In few groups are there more striking examples of maternal solicitude than in the Right whale, or more conspicuous social instincts than in the Pilot whale. Such is proved by the cruel methods of the old whalers in harpooning the helpless young in order to secure the anxious mother, whilst in the latter group a single example will suffice—thus when more than two hundred were embayed with their leader, an old male, in Scalloway harbour (a kind of pocket with a narrow entrance), the leader dashed through both the inner and the outer cordons of boats and reached the open sea, but when he found he was alone he turned shorewards, again rushed past both lines of boats, and was killed in the midst of his followers in Scalloway harbour, where to this day their skulls make suitable wedges to support the boats.

The first part of Sir Sidney's memoir gives practical information as to measurements of specimens, the different kinds of Cetacea and their sex-characters, illustrated by excellent figures. A brief account of toothed and whalebone whales follows. As an appendix to the list of porpoises, the fact is recorded that in summer in Shetland no less than 100 to 150 may occasionally be seen disporting themselves close inshore in Bressay Sound—probably attracted by a shoal of fishes. The female porpoise gives birth to her young often in June, and she may be watched swimming in circles close inshore with it, or resting on her side with a flipper in the air as it suckles. To Sir Sidney's remarks on the various forms it may be added that some of the larger dolphins occasionally 'breach' like the Humpback whale from the side of a huge wave, again noisily striking the water. The Killer, besides occurring on the east coast, may often be seen in the Sound of Raasay, not far from Portree in Skye, the long dorsal fin projecting above water, steadily propelled as if from a powerful screw.

The author makes important remarks on Cuvier's whale, formerly thought to be rare, especially in connexion with the prenarial basin of the male, about which he hazards the reasonable view that it "is occupied by derivatives of the two narial passages, perhaps diverticula which lie in the basin and are separated ventrally by the reduced prenarial part of the mesorostral." He also discusses skin-markings of whales, with remarks on age and disease, and the sizes of the newly born—quoting from Mr. R. C. Haldane's paper of 1905 (*Ann. Scottish Nat. Hist.*, No. 54) the fact that the young Finner when born is about 20 feet long, and that "sucking calves of 40 feet have been seen."

Tables follow with the Cetacea stranded in 1925 and 1926—27 in the former and 47 in the latter year. In his brief remarks on some of these the author observes that a white-sided dolphin caught in the beginning of August in the Loch of Stenness (near Stromness) at a time when Salps in large numbers pass from the Atlantic to the North Sea may have been attracted by them. Unfortunately, the contents of the stomach were not reported. This view would interest some in connexion with the Fishery Board for Scotland, who took the view that the hordes of Salps ousted the herrings from their usual haunts, the fact being that herrings and other fishes (if not whales) have, like birds and many invertebrates, a relish for Salps or part of them.

Under the tenth head a summary of the characters of the British toothed and whalebone whales, and a key for determining species, are given—a useful guide for all who come in contact with them, especially in such cases as True's Beaked whale, which has only occurred twice on the coasts of Britain.

Appended to the report are seven very useful quarto maps of the British Isles, the first indicating the stations where all the Cetacea during 1925 and 1926 were obtained, the field being generally dotted—with perhaps a denser grouping in the north. The second map is devoted to the common Dolphin, with maximum stations for 1913–1926 to the south and west, the latter areas also being in the ascendant for the Bottle-nosed and the White-beaked Dolphins. The other maps for the Killer, Hyperoodon, Cuvier's, Sowerby's, and True's Beaked whales, as well as the whalebone and spermaceti whales, are equally instructive for the period.

In dealing with the scientific names of the various species, the author throughout has unfortunately refrained from adding the name of the authority for each, probably to avoid complication.

The publication of this report will do much to facilitate the recognition of cetaceans by the public as well as to afford useful information to men of

[1] Report on Cetacea stranded on the British Coasts from 1913 to 1926. (No. 10.) By Sir Sidney F. Harmer. Pp. 91+7 maps. (London: British Museum (Natural History), 1927.) 7*s*. 6*d*.

science, and Sir Sidney Harmer is to be congratulated on his statistical and other labours, and the completion of so important a summary. It is to be hoped that his methods will be continued by the Museum on similar lines in future. Both in this respect and in his influence and exertions in connexion with the arrangements for the expedition in the *Discovery* and *William Scoresby* to the Falkland Islands in search of further knowledge of the life-history of the cetaceans, science and the public are deeply indebted to him. W. C. M.

University and Educational Intelligence.

ABERYSTWYTH.—Prof. H. Stuart-Jones, Camden professor of ancient history in the University of Oxford, has been appointed Principal of the University College of Wales.

LONDON.—Three public lectures on "Some Surgical Problems" will be given at the Middlesex Hospital Medical School at 5 o'clock, on May 16, 17, and 18, by Prof. J. Fraser. A course of four public lectures on "Inflammation and Infection" will be given at Guy's Hospital Medical School at 5.30, on May 20, 27, and 31, and June 3, by Prof. E. H. Kettle. No tickets will be required.

MANCHESTER.—Applications are invited from persons born in or inhabitants of the County of Lancaster, preferably the County Borough of Rochdale, for the Sir Clement Royds memorial scholarship in chemistry in the University of Manchester, the value of which is £300. The applications should be sent by, at latest, June 1 to the Registrar.

OXFORD.—A public lecture will be given by the Right Hon. Sir John Simon, M.P., on Saturday, May 7, at 12 noon, on "The Labrador Boundary."

The Romanes Lecture for 1927 will be delivered by Sir Frederic George Kenyon, Director and Principal Librarian of the British Museum, at the Sheldonian Theatre on Friday, June 17, at 5 P.M., on the subject of "Museums and National Life."

ST. ANDREWS.—The Senatus Academicus has resolved to confer the honorary degree of LL.D. upon Sir Richard Gregory and upon the Right Hon. Sir Alfred Mond, P.C., M.P., at the graduation ceremonial to be held on June 28.

Mr. G. J. Robertson has been appointed to the senior lectureship in the Chemistry Department of the United College of St. Salvator and St. Leonard, in succession to Dr. G. McOwan.

THE Salters' Institute of Industrial Chemistry is inviting applications, until June 1, for a limited number of fellowships, each of the normal value of from £250 to £300, from chemists of post-graduate standing who are desirous of adopting a career in industrial chemistry; also, until June 10, for a limited number of grants-in-aid to young men and women employed in chemical works in or near London who desire to extend their education for a career in chemical industry. The applications should be sent to the Director of the Institute, Salters' Hall, St. Swithin's Lane, E.C.4.

THE London School of Economics is making arrangements for a series of lectures and discussion classes on the ethnography of Africa. During the summer term Prof. C. G. Seligman will give a course of lectures on "The Nile Valley and its Peoples." In the Michaelmas term of the session 1927–28, Mr. J. H. Driberg will give a course on "The Ethnography of East-Central Africa," and will deal with the ethnography of West Africa and also with the reactions of primitive African cultures to economic development in the following lent and summer terms, whilst arrangements will also be made for Mr. I. Schapera to give a course on the ethnography of South Africa. Further details of this and other lectures on ethnology can be obtained on application to the Secretary of the School.

UNIVERSITY COLLEGE, London, celebrates this year the hundredth anniversary of its foundation. On April 30, 1827, the Duke of Sussex laid the foundation-stone of what was in the first instance styled the University of London but was incorporated by Royal Charter in 1836 under the name of University College, London. Another separate body was chartered on the same day as the University of London, with power to grant degrees in arts, laws, and medicine, after examination, to candidates who should present certificates of having completed the requisite courses at University College and such other institutions as might be approved for the purpose. To-day, with more than three thousand students, including five hundred post-graduate and research students, and its graduation list of nearly three hundred, it has an importance not less than that of many full-fledged universities. Attracting students from many countries both within and outside the British Empire, it has a cosmopolitan character and makes its influence felt throughout the world. It is marking the completion of its first hundred years by a campaign for raising half a million sterling towards building and equipment and better endowment.

IN the Report of the Imperial College of Tropical Agriculture, Trinidad, 1925–26, the Principal, Dr. H. Martin Leake, gives an account of the lines upon which the College is developing. The completion and occupation of the new buildings is an outstanding feature of the past year; but owing to the increasing number of students, further accommodation is already required. A residential hostel is in course of construction but is not yet completed. The field from which students are drawn is widening; in the past year four came from the Union of South Africa and one each from Brazil, Egypt, and Ecuador respectively, in addition to those from the West Indies and Britain. At the same time students who have passed through the College are becoming widely distributed throughout the British Empire. The shortage of staff has again seriously restricted the output of research work, but the issue of the Fruit Report drawn up by the Imperial Economic Committee is an important feature. A large section of the work has been devoted to the subject of bananas, the question of greatest importance being to secure a variety immune from Panama disease and also of satisfactory carrying capacity. The Giant Fig fulfils the first of these requirements, but much further work is necessary before the optimum conditions for shipment can be determined. The serious problem of the froghopper pest of sugar-cane has also been actively investigated. The degree of attack is to a great extent dependent on the physiological condition of the plant, so that much fundamental work has to be done before the intimate relation between host and parasite can be elucidated. Such studies, however, will probably have an important influence on allied problems. Tobacco investigations have been extended, but the inadequacy of curing facilities has proved a hindrance.