

## MAY, 1890.

The monthly meeting of this Society was held at the Museum on Tuesday, May 20th, the President, His Excellency Sir Robert G. C. Hamilton, K.C.B., took the chair.

## NEW MEMBERS.

The following gentlemen were elected Fellows :—Messrs. A. B. Howell, J. W. Beattie, Alfred T. Bell, and H. Foster.

## THE LIBRARY.

The Secretary, Mr. A. MORTON, submitted the following list of additions to the Library during the month of April :—

Bollettino della Societa Geografica Italiana, Fasciolo II., February and March, 1890. From the Society.

Boletin Mensual del Observatorio, Meteorológico del Colegio Pio de Villa Colon. From the Department.

Boletin del Instituto Geografica Argentino, Tomo X Cuad X Bueno Aires. From the Society.

Flora of British India. Pt. XVI. By Sir J. D. Hooker. From the Department.

Geological and Natural History Survey of Canada, Alfred R. C. Selwyn, C.M.G., etc., Director. Annual Reports (new series). Vol. III., pt. I. Reports, A.B.C.D.E.F., 1887-8, pt. II. Reports, H.J.K.L.M.N.R.S.T., 1887-8. Maps, etc., to accompany Annual Reports, Vol. III., 1887-8. From the Department.

Handbook of cyclone storms in the Bay of Bengal, for the use of sailors. By J. Eliot, M.A. From the Meteorological Department.

Horsburgh's East India Pilot, containing a number of old Charts, London 1817, also Table des Cartes et Plans, contenus dans L'Atlas du voyage aux Terres Australis, 1801 to 1808. From the Hon. Attorney General.

Journal of the Royal Horticultural Society of London, Vol. XI., part III., October, 1888. From the Society.

Kongl. Svenska Vetenskaps—Akademiens Handlingar Bandet 23, No. 3. Species Sargassorum Australiae, Descriptæ et Dispositæ accedunt de singulis Partibus. Sargassorum Earumque Differentiis Morphologicis in diversis speciebus observationes nonnullæ, nec non dispositionis specierum omnium generis his differentiis Fundatæ, Periculum, Auctore J. G. Agardh, cum XXXI., Tabulis. From the Society.

Memoirs of the Museum of Comparative Zoology, Cambridge, Mass. Vol. XVII. No. 1. The immature state of the Odonata. Pt. III. Sub-family Cordulina. By Louis Cabot. (Plates.) From A. Agassiz.

Memoirs of the Geological Survey of India, Palæontologica Indica, being figures and descriptions of the organic remains procured during the progress of the Geological Survey of India. Ser. XIII. Salt Range Fossils. Vol. IV., pt. I. Geological Results. By W. Waagen, Ph. D. From the Department.

Monthly Weather Review, Meteorological Service Dominion of Canada. (Current Nos.) From the Department.

Monthly Weather Review, U.S. War Department. (Current Nos.) From the Department.

Monthly notices of the Royal Astronomical Society, Vol. L., No. 4, February, 1890. From the Society.

Report on the worm disease affecting the oysters on the coast of N.S.W., by T. Whitelegge, F.R.M.S., April, 1890. From the Fisheries Department.

Revista do Observatorio Publicacao mensal de Observatorio do Rio de Janeiro, Anno V., Jan. de 1890, N. 1. From the Department.

Scottish Geographical Magazine, current Nos. From the Society.

United States Department of Agriculture (Division of Entomology), Vol. ii., Nos. 7, 8 and 9. Insect Life. January, February, March, 1890. Bulletin No. 21, Report of a trip to Australia, made under the direction of the Entomologist to investigate the natural enemies of the Fluted scale, by Albert Koebele. From the Department.

Victorian Year Book for 1888-89. From the Government Statist.

Tasmanian Official Record, 1889. By R. M. Johnston, F.R.S. From the author.

Transactions of the Royal Society of Victoria. Vol 1, Pt. ii. From the Society.

Transactions of the Seismological Society of Japan. Vol. xiv. From the Society.

#### THE LATE REV. J. E. TENISON-WOODS.

Mr. R. M. JOHNSTON referred to a proposal to erect a memorial tombstone over the grave of the late Rev. J. E. Tenison-Woods, as a small tribute of respect to one who has done much for the good of religion and science, and also for the colonists generally, in whose interest he sacrificed his valuable life. He said he had been associated with the deceased for many years, and derived the greatest benefit from him in many branches of science. He was in sympathy with all fellow-workers throughout the Australias, and it was hoped the object would be successful. He placed a subscription list on the table in order that members who desired might contribute.

#### TASMANIAN FISHES.

Mr. R. M. JOHNSTON, F.L.S., read a paper, entitled, "Further observations upon the fishes and fishing industries of Tasmania, together with a revised list of indigenous species." Eight years ago he contributed a similar paper, and since that time Messrs. Alex. Morton and Saville Kent have added two or three interesting papers on the same subject. By this means the 188 species then known have increased to 214. After giving a complete list of the fishes Mr. Johnston dealt with the fishing industry, estimating that there are about 86 boats and 175 men engaged therein. Although it is estimated that, exclusive of the whaling trade, there are 1,005 persons directly depending upon the local fisheries, fully 63 per cent. of the men and boats belong to Hobart, and the men carry on their vocation either in the numerous sheltered indentations or bays in the upper or lower waters of the estuary of the Derwent, or in the exposed open sea between Seymour on the north-east and Port Davey on the south-west. The fishing carried on elsewhere, with the exception of the purely river fishing of the Tamar, is very limited, generally engaged in at odd times by persons who do not devote themselves exclusively to the fishing industry. The Tamar boats are not suited for fishing in the open sea of Bass Straits. With the exception of three or four decked smacks, the most of the boats employed in the waters of the Derwent, or in the open sea trumpeter and Barracouta fishing-grounds, are mere open centre-board whaleboats, fitted with fish-wells perforated in direct communication with the sea, and designed to keep the fish alive until sold in the open market in the Fisherman's Dock, Hobart (salt water.) The trumpeter and other fish will feed in such confinement, and the former has been known to live healthily in this way for a period of three months. The average value of one of these excellent sea-boats is (generally about 37ft. 6in. long; beam, 7ft. 8in.; depth, about 3ft.) about £100, and the equipment, in the shape of nets and deep sea lines, say £20; in all, say £120 for each boat. There are usually three men to each boat. Even with a small crew of this kind, as much as 40 dozen kingfish, weighing 12 to 14lb. each, have been caught in a

single night when the fish have been plentiful. Barracouta can be captured in large quantities during the season—January to June. About 24 dozen Barracouta weigh a ton. The fishermen state that, could they be assured of a market, 3s. a dozen for barracouta or kingfish would amply repay them—*i.e.*, about  $\frac{1}{4}$ d. a pound. The average quantity of trumpeter, perch, trevally, barracouta, kingfish, conger eel, and crayfish, exported each year, almost wholly to Victoria, amounts to 3,396doz. The average price of the trumpeter is fixed at 1s. per lb., and he estimates that the yearly sales of fish since the decline of the oyster fishery do not exceed £10,000 per annum. The decline in the value of oil obtained from the whale fishery is shown by comparing the first and second quinquennium, the first yielding £31,281 worth, and the second £19,223 worth.

ROOT MATTERS IN SOCIAL AND ECONOMIC PROBLEMS.

Mr. R. M. JOHNSTON, F.L.S., continued his study of root matters in social and economic problems by reading a paper on that head. This contribution formed the second series, and follows the able paper read by him during last session. In that he dealt exhaustively with almost every branch of social and economic science, and in the paper read last night he treated the same subjects under the following heads:—“Natural Limits to the numbers engaged in various occupations;” “Dominating wants determine occupations, and necessarily produce inequalities in the form of services;” “Utopian scheme of socialists;” “What should be the probable effect upon social well-being if the major source of savings were destroyed;” “Anterior savings the true source of capital invested in the creation and distribution of necessary satisfactions;” “Fallacies of the single tax proposal.” To give a clear example of the difficulties that are here to be met with by workers he introduces a fictitious deputation from the shoemakers driven out of employment by competition with cheap foreign manufactures, and employs a theorist to represent the Government and argue the question with him.

Mr. A. J. TAYLOR thought that one of the principal values of the papers read by Mr. Johnston consisted in the fact that they drew attention very positively to the fact that in writing and dilating upon the social problems occupying our attention we were apt to lose sight of the deeper considerations that underlie the superficial consideration often given to those questions. Mr. Johnston gave an illustration of this in his last paper, when in speaking of protection and freetrade, he called attention to the fact that we were apt, in dealing with the subject, to regard those important questions as ends rather than as means to an end, that end being to secure the maximum of comfort essential to living a healthy and happy life at a minimum cost of labour. He referred briefly to several of the subjects alluded to in the paper, and considered such contributions valuable, as showing the people that many economic questions have not yet been settled, and have still to be faced.

His EXCELLENCY said:—“A paper like that read to us to-night by Mr. Johnston requires to be studied carefully before discussing it, and I do not wish to enter into discussion with Mr. Johnston, for although some of the propositions he has raised are in their essence rather economic than political, yet the question of protection of native industries has, in these colonies, a political and party bearing which makes it undesirable that I, as Governor, should take part in discussing them. But there is one root matter in connection with economic problems bearing directly upon this point to which I do not think Mr. Johnston has sufficiently called attention, and it is this, that all commerce is barter, and that if we import foreign goods, either shoes or anything else, we export something in exchange for them, and if we cease to import such goods, we

necessarily interfere with the production of the native goods which we exported to pay for them. I do not for a moment suppose that Mr. Johnston would dispute this root matter, and I am sure he will not feel annoyed at my pointing out that in my view it deserves more attention at his hands than it has received in this paper." He moved a vote of thanks to Mr. Johnston for his papers, which was passed.

## HOP PLANT.

Mr. ALFRED J. TAYLOR called attention to a specimen of the native hop (*Daviesia latifolia*). This shrub was to be found on all the stony ridges and barren bush lands of the colony. He had been assured that some remarkable cures of hydatids had been effected in Victoria by the administration of an infusion made from the leaves of this plant. Perhaps the Government Analyst would kindly prepare some notes on the plant for some future meeting of the Society. He also showed two interesting illustrations of homes made without hands in peculiar formations of gum leaves.

## FORAMINIFERA AND MOLLUSCA.

Mr. MORTON drew attention to a recent dredging trip in the harbour, and regretted that Mr. Durrand, who was introduced at the last meeting, was unable to be present to submit a microscopical slide containing some very interesting examples of various forms of foraminifera that he had mounted for the inspection of the Fellows. The result of the dredging trip was of importance, as the forms obtained resembled the marine fauna of Port Jackson, and the results of a few dredging trips intended during the season would no doubt prove very interesting. Among the specimens dredged were a large number of mussels, and each contained a small crab, which on examination appeared to belong to the genus *Fabia*. It was rather interesting to learn from some of the old residents that many years back, when mussels were numerous as at present, in the majority of cases every mussel contained a crab similar to those exhibited, and that the oysters, while mussels were in large quantities, were few. Some time afterwards the mussel became nearly extinct, while the oyster multiplied. Whether that was due to this parasitical crab or not he was unable to say, but the fact was singular that while the crab was now noticeable in the mussel the oyster was increasing in numbers. Whether history would repeat itself it would be difficult to say, but it would be interesting to observe the result. In conjunction with Mr. Durrand he intended at next meeting to submit a paper on the results of the dredging of the harbour.

Sir LAMBERT DOBSON recollected that many years ago, when mussels were plentiful, they were destroyed by a little red crab. For many years there were no mussels, now they were again plentiful.

Mr. R. M. JOHNSTON said he had noticed as a remarkable coincidence that the disappearance of the mussel in former years was followed by the increase of the oyster, and the decrease of the oyster meant the increase of the mussel. It was desirable to know the cause of this phenomenon, and he hoped Mr. Morton would pursue his investigations in regard to those molluscs and their enemies.

Mr. MORTON said that he had had forwarded to him, by the Fisheries Commission of New South Wales, a most valuable paper prepared by Mr. Thos. Whitelegge, F.R.M.S., Zoologist to the Sydney Museum, on the disease observed in the oysters on the New South Wales coast. As the question of introducing the Sydney oyster on the Tasmanian coast occupied the attention of the Fisheries Board at present, he intended to submit some extracts from Mr. Whitelegge's valuable paper at next meeting of the Society.

The PRESIDENT moved a vote of thanks to Mr. Johnston for his valuable papers.

The proceedings then terminated.