The excellence of Dr. Thorp's book is evidenced by the appearance of a second edition within one year after the printing of the first. The first edition was reviewed in SCIENCE, Vol. 9, p. 150. Very few changes, further than the correction of a few errors which have been brought to the author's notice, have been made. The book well deserves the success it has achieved.

W. A. NOYES.

GENERAL.

IT is proposed to publish, under the editorship of Mr. W. L. Sclater, director of the South African Museum, a series of volumes dealing with the fauna of Africa south of the Zambesi. The northern limits of South Africa, as treated in this work, will be a line drawn from the Cunéné River on the west to the Zambesi at the Victoria Falls, and thence along that river to its mouth. Within it will, therefore, be enclosed the British colonies of the Cape and Natal, the two republics of the Transvaal and the Orange Free State, the southern half of the Chartered Company's territory, German Southwest Africa, and that portion of Portuguese East Africa which lies south of the Zambesi. The first volume, by Arthur C. Stark, M.B., containing Part I. of the birds, will shortly appear, and it is hoped that that relating to the mammals, by Mr. Sclater, will be ready for publication during the course of the present year. The work is published by R. H. Porter, 7 Princes St., London.

IN *The Indians of Southern Mexico* Frederick Starr, of the University of Chicago, presents some of the results of his several expeditions to Mexico. The chief objects of these expeditions was the study of the physical types of South Mexican Indians. Three methods of work have been followed—measurement, photography and bust making. The tribes studied live among the mountains, and some of them—as the Triquis, Chontals and Juaves—are almost unknown to students. In the photographic work Professor Starr has secured portraits, groups, scenes in daily life, views of houses and towns and of scenery. For portraits plates 5x7 inches were used and front and profile views made of each subject; for full figures and occupations 5x8 inch plates were used; for large groups, architectural subjects, villages and landscapes 8x10 inch plates were employed. Hundreds of negatives have been made representing the tribes of the States of Michoacan, Mexico, Flaxcala, Puebla and Oaxaca. From this series a selection has been made for publication. The book contains one hundred and forty-one beautiful photogravure plates, 11x14 inches in size, printed on heavy plate paper and well bound. They are accompanied by thirty-two pages of descriptive text. On account of its great cost the work is a limited edition, but it will have permanent value.

SCIENTIFIC JOURNALS AND ARTICLES.

THE *Journal of Geology*, Vol. 8, No. 2, February–March, 1900. Besides the reviews and notes on recent publications, this interesting number contains: 'The Nomenclature of the Feldspathic Granulites' by H. W. Turner. The author advocates the naming of the rocks in accordance with their mineral molecular composition and in the case of the feldspathic granulites, to abandon the term plagioclase, which expresses a mixture of two or more kinds of molecules, and substitute the more descriptive terms for the rocks which contain the larger per cent. of the single molecules such as orthosite, anorthosite, albitite, oligosite, andesinite, labradite, and anorthitite. When quartz is abundant then the terms should be compounded as quartz-orthosite. If an accessory mineral term is introduced into the name it should take the adjective form as quartziferous syenite. 'The Geology of the White Sands of New Mexico'; with three plates, by C. L. Herrick. The geological features of the regions east of the San Andreas and Orange Mountains of New Mexico and those bordering the great white sand plains are discussed, and the opinion is expressed that the white sands are derived from the weathering of the ridges of gypsum and are entirely dune sands, that the alkaline and saline deposits of the region are derived from the red beds (Permian and Triassic) and the associated saline and gypsiferous members. The copper deposits are thought to have a similar origin also. The suggestion is offered

that the low depressed areas and local basins are caused by the leaching out of the soluble materials from the underlying beds. 'The Origin of Nitrates in Cavern Earths,' by William H. Hess. The author finds from a study of cavern earths and from many analyses that the nitrates are derived from the soil layers above the caverns and are carried into the caverns by the percolating waters and are finally left in the cavern earths by the evaporation of the water. 'The Calcareous Concretions of Kettle Point, Lambton County, Ontario,' by Reginald A. Daly. The article is illustrated with six reproductions of photographs of these noted concretions and after a somewhat extended discussion of the subject of concretionary growths, the author concludes that these particular concretions "were formed in place in the shales and antedate the period of joint development and final consolidation of the surrounding rock, that the local deformation of the shale accompanied the crystallization, that the energy of the deformation was derived from the change of volume induced by the breaking up of the bicarbonate into the monocarbonate and the fluid biproducts." 'Ants as Geological Agents in the Tropics,' by John C. Branner. The author concludes that the geological work of ants in the tropics is much more important than that of the earthworms in the temperate regions and he records a number of observations on the point. 'Variations of Glaciers,' by Harry Fielding Reid. A summary of the fourth annual report of the International Committee on Glaciers is given. Under the section of Studies for Students, Dr. E. R. Buckley gives a very comprehensive discussion of 'The Properties of Building Stones and Methods of determining their Value.' The author treats especially the economic phase of the subject.

W. G. T.

SOCIETIES AND ACADEMIES.

ZOOLOGICAL CLUB, UNIVERSITY OF CHICAGO.

MEETINGS OF FEBRUARY AND MARCH, 1900.

At the meeting of February 14th, Mr. W. J. Moenkhaus presented a paper entitled 'Some Stages in Hybrid Development' giving some of the results of his experiments upon the production of hybrids among fishes, and Miss Mary Hefferan reviewed Rand's papers on regeneration and regulation in Hydra. The following is an abstract of Mr. Moenkhaus' paper:

Of some twenty crosses made between some of our commoner marine and fresh water fishes there was not a single failure of impregnation, though many of the crosses were between very distantly related forms—soft-rayed and spiny-rayed species. The per cent. of eggs impregnated was, as a rule, quite large, but this bore no relation to the nearness of relationship. Two combinations gave beautiful instances of what a study of the nuclear conditions has shown to be dispermy, fifty per cent. of the impregnated eggs falling directly into four cells, the remainder into two. In all crosses segmentation was carried through. Four crosses went to completion of gastrulation, forming the neural tube, but no optic vesicles. The remainder hatched. From crosses among the trout it appeared that the formation of the tail is a difficult process. Considering in this connection the common phenomenon of infertility, it seemed that in hybrid fishes there were at least four pretty definite stages in development that are critical: (1) beginning and (2) close of gastrulation; (3) formation of tail bud, (4) formation of the sexual elements.

The nuclear behavior during fertilization and during degeneration in these partially successful crosses is being studied.

The session of February 28th was devoted to two papers; a review and critique by Mr. E. R. Downing of Delage's recent work on the fertilization and development of enucleated egg-fragments, and a review by Miss Anne Moore of Calkin's paper on 'Mitosis in Noctiluca.' A few of the more important points touched upon by Mr. Downing were as follows:

Delage finds in embryos produced by the fertilization of enucleated egg-fragments the normal number of chromosomes. He claims to demonstrate (1) a maturation of the cytoplasm corresponding to, but independent of, that of the nucleus; (2) that enucleated eggs resist hybridization as well as entire eggs and that, therefore, the nucleus has nothing to do with such resistance; (3) that the female nucleus is inert and the male excitable. The latter con-