

have existed in the age of the Chalk, as shown in the map at the end of the volume. Three corresponding names (*Archiplata*, *Archibrasilia*, and *Archiguiana*) are proposed for the ancient bosses from which the whole continent of South America appears to have been developed, and are explained according to the author's views in his essay on the palæogeography of that region.

Three chapters of Dr. von Ihering's volume treat of the geographical distribution of river-mussels, and are also of some importance, as the author is a leading authority on this subject. Written in 1890, they were translated into English and re-published in the *New Zealand Journal of Science*. The fresh-water molluscs of Chili show many points of affinity to those of New Zealand, and the author agrees with Captain Hutton's views that in the Lower Cretaceous period a large Pacific continent must have extended from New Guinea to Chili, and sent out a peninsula to include New Zealand.

Those who are engaged in the study of the difficult problems presented by palæogeography will do well to consult the memoirs collected by the author in the present volume.

The Moon, a Popular Treatise. By Garrett P. Serviss. Pp. xii+248; illustrated. (London: Sidney Appleton, 1908.) Price 6s. net.

IN describing the Yerkes photographs of the moon Mr. Serviss has had a pleasant task, and has performed it with pleasing results. The text involves a selenologist, a lady questioner, and the excellent photographs of the moon taken on successive evenings throughout an entire lunation by Mr. Wallace with the 12-inch telescope of the Yerkes Observatory. The author has managed to keep the questions in the background whilst making the answers very lucid and impressive. In an introductory chapter the dialogue turns on the distance, size, motions, &c., of our satellite; thenceforward it takes each photograph of the moon in turn, and gives a simple, straightforward account, in popular language, of the various features, introducing, at well-timed intervals, asides on geometrical, photometrical, and such-like questions. Then follows a chapter (iv) dealing with some of the larger individual features of the lunar surface, as shown on the large-scale photographs taken by Mr. Ritchey with the Yerkes 40-inch refractor.

The exquisite photographs—well reproduced—and the easily readable text of this volume should ensure it a welcome from all classes of readers, whether they be astronomers or not. There are twenty-one photographs in the first series and five of the enlarged portions, besides a number of diagrams in the text.

W. E. R.

The Apodous Holothurians. By H. L. Clark. Smithsonian Contributions to Knowledge. Part of vol. xxxv. Pp. 231. (Washington: Smithsonian Institution, 1907.)

THE author of this valuable memoir has had the advantage of studying more than two thousand specimens of the species included in the families Synaptidæ and Molpodadiidæ, and he has taken the opportunity of collecting together in the form of a handsome volume the information we possess concerning all the species of this interesting group. There are three coloured and ten monochrome plates of figures, illustrating the form and anatomy of the different species, of which several are original, and the others copied from the works of Semper, Theel, Sluiter, and other zoologists. Eight new genera are described, and a new generic name is proposed for an old genus. The monograph will undoubtedly be of great service to all those who are interested in the study of the Echinodermata.

LETTERS TO THE EDITOR.

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Elimination of Self-coloured Birds.

STATISTICAL data on the real value of colour markings in the survival of animals in the field are so uncommon that the publication of the following fragment may be excused.

At the Station for Experimental Evolution, about 300 chicks of from five to eight weeks of age on May 10 were running at large on a well-cropped pasture about three acres in area. For the most part, within the space of less than two hours, twenty-four of these were slaughtered by three crows which were caught in the midst of their work of chasing and killing the young poultry. A close estimate of the fowl as they ran at large shows that about 40 per cent. were of a white plumage, 40 per cent. black or nearly so, and 20 per cent. had a pencilled or striped marking more or less like that of the female jungle fowl or ordinary game. The interesting question arose, Was there any elimination on the ground of colour by the crows? Did any colour favour the escape from observation of any of the chicks?

Were there no selective elimination, expectation on the ground of chance is that of the twenty-four killed 9.6 would be white, 9.6 black, and about five pencilled. *Actually*, there were killed ten whites, thirteen blacks or prevalently so, and one coarsely mottled grey and buff. No true pencilled bird was killed! The killed birds were largely Leghorns, Minorcas (both good fliers); the pencilled birds were partly games (good fliers), but mostly dark Brahmas (poor fliers). The race is not always to the swift! This fragment, then, so far as it goes, indicates that the self-colours of poultry, which have arisen under domestication, tend to be eliminated by the natural enemies of these birds, and the pencilled birds are relatively immune from attack because relatively inconspicuous.

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"Barisål Guns" in Western Australia.

IN NATURE of October 31, 1895, Sir George Darwin, in a letter on "barisål guns," "mist puffers," and allied noises, desires all those hearing such to record them from time to time. Recently an instance, which may be of this nature, came under my notice, the only apparent difference being that it was a single noise, and was not repeated several times.

It happened that in July, 1907, I was dispatched by the Government of Western Australia to a remote portion of the north-west of that State to carry out certain investigations. We were camped for two months on the Strelley River (lat. 20° S.)—which only runs in flood-time—sixty miles from Port Hedland, and the same distance from Marble Bar. The situation was a desert "spinifex" plain, with occasional low hillocks of granite boulders, and uninhabited, save by occasional sheep and cattle stations, between the two places mentioned. At approximately 8.35 p.m., mid-West Australian time, on Friday, August 9, I was lying in the tent when, in the words of my diary, "we suddenly heard a dull roar lasting several seconds, increasing in loudness and then decreasing. Everyone heard it and looked round. The sky was quite clear, and there were no signs of thunder clouds. There was no apparent tremor. I thought the noise came from the S.E., others from the N.E. Some suggested it was the rumble of a herd of cattle galloping over a clay pan with hollow ground beneath, as they hear similar noises in the Kimberley District (W. Australia). Mr. G. and I wonder if it is due to a volcanic eruption somewhere, as that of Krakatoa was heard not very far from here." Next day