

materials. These Prof. Spencer intends to secure with all possible speed, and to that end he is already laying plans for renewed exploration of the Bush and the Interior. It is his intention to make the museum at once a thoroughly representative Australian Collection and a great Educational Institute. In this he has a labour of years; and that he will succeed we have not the slightest doubt, for pluck, endurance, far-sightedness and enthusiasm are in him unusually combined.

The work of the Sydney Museum has rapidly developed in interest and importance during recent years; the introduction of "new blood" there, as more recently at Adelaide and now at Melbourne, has brought to bear upon the investigation of the indigenous fauna and the natural resources of the country, now so largely dying out, a body of earnest students intent on work while yet it is not too late. The present memoir, which is an outcome of this movement, may thus be regarded as a sign of the times; and we sincerely hope that those which are to follow will be pushed forward with all possible speed, it being now five years since the discovery of the remains of which it treats was announced.

FLOATING STONES.

DURING my recent visit to South-West Patagonia, in 1899, for excavations in the remarkable Glossotherium or Neomytilodon Cave near the farm Puerto Consuelo or Eberhardt, I made, with my fellow traveller, Dr. O. Borge, the following curious observation. Whilst rowing in the long and narrow channel of Ultima Esperansa, to study the plankton, we observed, when the

fragments had a mean weight of 0.3 gram. The fragments contain no air cavities perceptible to the unaided eye. They must, therefore, not be confounded with the volcanic ejections (and perhaps slags from meteors) with its numerous air cavities which are often found drifting on the surface of the ocean.

The following consideration will help to explain the apparently paradoxical fact that stone fragments of a specific gravity of 2.71 and a weight up to 0.8 gram have been observed floating on a fluid of a specific gravity of 1.005. On examining the floating stones one could discern small gaseous bubbles attached to the under surface of them, and at the shore stones can be seen on the very fringe of the beach which are just beginning to float lightened by gaseous bubbles. Unfortunately, I had not occasion to investigate the conditions more closely, as I was busy with other researches; neither had I any apparatus at my disposal for the collection of the gas that had accumulated under the stones. It is probable that the stones were not only provided with gas bubbles, which can be perceived by the eye, but that they were surrounded by an envelope of gas supported by an insignificant coating of algæ, of which the stones are surrounded. At least, traces of diatoms and algæ are discernible on the stones after drying. The greasy surface of the mineral of which the floating stones consisted also prevented the water from adhering to them, and caused the stones to be surrounded with a concave meniscus, which naturally may have contributed to, and perhaps was the main cause of, their floating, which sometimes was further facilitated by a patelliform shape of some of the bigger stones.

The observed phenomenon is not without some geological interest. In the described manner a considerable transport of solid matter takes place, not only in the narrow Patagonian channel, but no doubt also at several other shores of the ocean; and new strata will be built up possibly enclosing mixture of remains from far distant geological periods.

ERLAND NORDENSKIÖLD.

DR. ELLIOTT COUES.

BY the death, on Christmas Day, of Dr. Elliott Coues, America loses one of its leading ornithologists; indeed, we may say, without disparagement of others, the most prominent since Spencer Baird was taken from us. Born in 1842, at Portsmouth, in New Hampshire, and

graduating in the Columbian University, Coues entered the medical service of the United States Army in 1862, receiving the brevet rank of Captain for his conduct during the war, after which he held several appointments of various kinds, and especially one in Arizona, which gave him the opportunity of indulging his inborn taste for natural history. Subsequently he held in succession the posts of Professor of Zoology in the University of Norwich, in the State of Vermont, of Anatomy in the National Medical College at Washington, and of Biology in the Virginia Agricultural College, besides being, in the interim, surgeon and naturalist to the United States Northern Boundary Commission, and from 1876 to 1880 secretary and naturalist to the United States Geological and Geographical Survey of the Territories. The duties of these different offices seem only to have stimulated his efforts, and the number of his zoological papers contributed to various scientific journals would alone accord him a high place; but, apart from them, his "Birds of the North-West," his "Fur-bearing Animals," and "Birds



Fragments of slate found floating upon the sea-surface at S.W. Patagonia.

sea was calm or only agitated by a slight swell, small fragments of slate which floated upon the surface packed together in larger or smaller clusters. They drove hither and thither in the neighbourhood of the shore, until they were driven away by the strong current which at intervals swept forward in the channel. The quantity was considerable; for instance, 700 of them were obtained at one cast of the net in a few minutes. The stones had evidently drifted out from the beach, which consisted mainly of similar stone fragments washed off from the cliffs composed of a bituminous mesozoic slate. The surface of the stones was dry, and they sank immediately when it became wet by touching or by the movement of the swell.

The slate fragments collected on the sea-surface had a specific gravity of 2.71. The specific gravity of the water in the channel was only 1.0049 at a temperature of 15° C (59° F). The largest stone which I obtained from the surface (pictured in natural size on the accompanying zincotype) weighed 0.8 gram. Twenty of the smaller