

Pectens, Oysters, etc., of very recent appearance, in considerable numbers. It is this group also which contains the slightly oil-bearing beds; the rocks are extremely disturbed, and are conjectured by Mr. Lyman to be of middle Tertiary age.

The *New Volcanic* rocks include those surrounding or near all the numerous volcanic mountains of the island—pumice of light-brown colour with capillary pores, trachytic rock, etc.; some of these volcanos still sending forth sulphurous smoke, and one having been in eruption as late as 1874.

The *Old Alluvium* consists of materials brought down by ancient rivers, just as the *New Alluvium* does of that now being deposited by the present streams. Overlying the latter are extensive marshes and some peat.

Among the minerals of less importance than those previously mentioned, the gold-fields of the island are, perhaps, only worth noticing, to say that, after close examination, the industrial prospects connected with them are unpromising, 180,000 dollars worth being barely workable.

The Survey is conducted under the orders of the Colonization Board, or *Kaitakushi*, whose multifarious supervision seems to include the making of roads, railways, bridges, building of schools, ownership of all the horses in the island, introduction of cattle, grain, and other plants from abroad, as well as fruit trees, the produce of hundreds of thousands, which will, Mr. Lyman observes, bring the good fame of the *Kaitakushi* most agreeably into everybody's mouth.

Although these reports leave the impression that there is a good deal still to be done in the way of elucidating the geology of Yesso, they contain a fund of interesting information, which warrants the wish of still further success to the Geological Survey of Japan.—W.

CORRESPONDENCE.

OSTRACODA AND FORAMINIFERA IN THE MIOCENE OF SOUTH AUSTRALIA.¹

SIR,—In the *GEOLOGICAL MAGAZINE* for July, 1876, Mr. Robert Etheridge, jun., has furnished a list of Foraminifera and Ostracoda derived from the matrix of mollusca obtained from the Government Well sunk on the Murray Flats, between the Burra and the North-West Bend, South Australia, and I wish to correct errors that he has fallen into in assigning the beds yielding the fossils to the post-Tertiary, and in remarking that the River Murray Flats must be composed of strata, geologically speaking, of no great antiquity.

The River Murray Plain is constituted of Miocene strata (contemporaneous with the fossiliferous beds of Tertiary age in the southern and western parts of Victoria, with which your correspondent is so familiar). These Miocene beds are bounded on the west by the

¹ This letter has been by an oversight accidentally held over.—Edit. *GEOL. MAG.*

Adelaide chain of metamorphic and slate rocks, where they are covered up by a Pliocene drift (of pluvial or glacial origin), containing remains of extinct marsupialia and trees only.

The two sets of deposits are shown in the Well-section alluded to, which is as follows:—

	Estimated thicknesses. Feet.
PLIOCENE—	
“ Mallee ” clay	40
MIOCENE (marine).	
Light-coloured sandstone with casts of shells	10
Gravelly ironstone and bands of clay }	81
Blue marl }	
Sandstone without shells	17
Loose sand	6
	154
Actual depth	154

UNIVERSITY OF ADELAIDE,
June 18th, 1877.

RALPH TATE.

ELEPHAS MERIDIONALIS IN DORSET.

SIR,—At a recent visit to the Blackmore Museum at Salisbury, I was surprised to see two specimens of the teeth of *Elephas meridionalis*, which were labelled as found at Dewlish, in Dorsetshire. This being a preglacial species, it would be interesting to learn under what conditions they occurred at that locality, which is situated among the Chalk downs. The specimens were white, and had the appearance of having come out of Chalk debris.

The only specimen I have seen from any English locality besides the Cromer Forest-bed was a fragment at the Chichester Museum, said to have been found on the neighbouring Sussex coast.

Can any of your correspondents give information about these specimens?

O. FISHER.

REVERSED FAULTS IN BEDDED SLATES.

SIR,—I should like to call Mr. Hebert's attention to a few points in his article on the above subject in the October Number, which appear to require further consideration. Though it may be the established rule in some coal-mining districts that the hade of a fault is to the downthrow, there are in other districts exceptions to this rule, in which the faults are 'reversed,' or, as they are commonly called here, overlap faults. The cause of these reversed faults is, as stated, no doubt horizontal pressure, the results produced varying with the angle of hade, friction, and so forth. The causes of these horizontal pressures I should be glad to see further discussed by the author. The cooling of the earth, and consequent contraction of the nucleus beneath the solid crust, has, as well as the more local effects of earthquakes and volcanic intrusions, been suggested as a cause. It is evident that a local subsidence under an arched portion of strata will, if the abutments are stronger than the arch at the line of subsequent rupture (or fault), cause an overlap or reversed fault when the arch gives way, or it is evident that the matter may