MODERN VIEWS OF MATTER.

Professor Oliver Lodge in the *International Monthly* for May reviews the modern views of matter touching more particularly upon J. J. Thomson's electro-corpuscular theory, and upon Johnstone Stoney's electron theory. It has been known since Maxwell's time that a moving electric charge stores kinetic energy so that work is required to set it in motion and it does work when it is stopped, that is, an electrical charge is endowed with that most perplexing property of matter inertia. Johnstone Stoney's theory is that atoms of matter are aggregrates of electrons, an electron being, as it were, a stretched spot in the ether or a very small electric charge. J. J. Thomson's corpuscular theory is more or less similar to the electron theory only that J. J. Thomson has pretty clearly shown by experiment that what he calls a corpuscle exists, that its mass (inertia) is about 1/500 of the mass of the hydrogen atom and that it carries a definite negative electric charge.

In a very interesting communication to *Nature*, May 10, J. J. Thomson shows that many physical phenomena can be interpreted in terms of his corpuscular theory; for example the proportionality of thermal and electric conductivity, and the variation of electrical conductivity with temperature.

W. S. F.

NOTE ON A NEW ABYSSAL LIMPET.

Under the name of *Bathysciadium conicum* Dautzenberg and H. Fischer have described* a new deep water limpet which combines some curious characters. The specimens are simply conical with radiating riblets and an almost membranaceous shell, and have a diameter of 1.5 mm. and a height of 0.9 mm. Some anatomical details are given by Dr. Pelseneer in a note appended to the description. The animal was obtained from the beak of a cuttlefish dredged by the Prince of Monaco off the Azores in 843 fathoms.

Like *Lepeta* it is without eyes or ctenidia, the respiration being carried on by the surface of the mantle. The muzzle appears to be without lappets, the right tentacle has an appendix like that of *Cocculina* (supposed to be a degenerate verge), there are no posterior filaments; an unpaired mandible and long radula are present, the nervous system is that of the Docoglossa and the otoliths are single.

Dr. Pelseneer regards the genital gland (otherwise strictly docoglossate) as hermaphrodite, a condition so exceptional, and, considering the minute size of the animal, so difficult to determine, that judgment may fairly be suspended pending further confirmation of it. The radula as figured leads to the belief that except in the absence of the rhachidian tooth (often degenerate in abyssal limpets) the teeth are like those of *Lepetella;* the major lateral being broken into three pieces which have been taken for three separate teeth by the author cited. If this suspicion be correct the formula is $1 + 2{\cdot}0{\cdot}2 + 1$, for a transverse series of the radula. The creature will be the first true limpet (Docoglossa) to show any trace of a verge, and if really hermaphrodite, the first to exhibit this character. The single otolith is very likely correlated with the small size of the animal. The genus will stand next to *Lepetella* among the Abranchiate Docoglossa.

Wm. H. Dall.

* Bull. Soc. Zool. de France, xxiv., p. 207.

THE PLANET EROS.

A letter from the Arequipa Station of the Harvard College Observatory of June 1, 1900, gives details concerning four photographs of Eros taken there in April with the Bruce telescope, by Dr. Delisle Stewart. An adjacent star was followed in an eye piece and by means of a micrometer screw the photographic plate was moved with regard to it by an amount and in a direction equal to the motion of Eros. The stars thus appeared as trails and Eros as a point. Approximate positions were determined from the plates at Arequipa with the results given below. Paper prints of two of these plates were sent to Cambridge and measures of them are also given. The negatives are now on their way to Cambridge, and as soon as received accurate positions will be derived from them.

These appear to be the first observations of Eros since its conjunction with the Sun. The

second observations taken a month later are given in the accompanying bulletin. Efforts have been made at Cambridge to observe Eros, both visually and photographically, but have failed, owing to twilight.

Plate.	Date 1900.	G. M. T.	R. A. 1900.	Dec. 1900.
A 4333	April 26	$21^h\ 20^m$	$22^h\ 49^m\ 21^s$	$-5^\circ\ 46'.0$
"	"	"	49 23	−5 46 .4
A 4334	"	22 06	49 27	−5 45 .8
A 4338	April 27	21 47	51 23	−5 29 .6
A 4341	April 30	21 16	57 7	−4 42 .1
"	"	"	57 1	−4 42 ,

A LETTER has been received at the Harvard College Observatory from Professor H. A. Howe, at Denver, stating that Eros was observed with the 20-inch refractor of the Chamberlin Observatory with the following results:

Gr. M. T.	Apparent R. A.	Apparent Decl.	Comp. Stars.
May 27, 90729	$23^h\ 47^m\ 3^s.43$	$+2^\circ\ 46'\ 27''.3$	Boss 8197
May 27, 91859	23 47 4 .37	+2 46 38 .6	Boss 8198

After taking parallax and aberration into account, a comparison of these observations with the ephemeris of J. B. Westhaver in A. J. No. 479 gave the following corrections to that ephemeris:

Gr. M. T.			
May 27, 90729	$+1^s.7$	$+28''$	Estimated Magn. 13.
May 27, 91859	+1.5	+28	

So far as known this is the first visual observations of Eros since its conjunction with the Sun.

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*THE CAMBRIDGE EXPLORING EXPEDITION TO THE SIAMESE-MALAY STATES.**

ALL the members of this expedition have now returned to England. After the arrangement of the necessary preliminaries at Pangkok, the party proceeded to Singora, where the active work of the expedition commenced by an exploration of the Inland Sea, which measures, roughly speaking, 60 miles by 20. The birds' nest islands were visited and the now somewhat rare method of tree-burial investigated, as well as the habits of a peculiar, isolated tribe called Phram who are believed to be of Indian origin. The tree-graves were usually cigar-shaped wrappers, or rather shells made of laths and suspended horizontally at a height of six to eight feet from the ground between two tree-trunks, branches, or posts. The corpse is exposed in one of these shells (the heels being generally left higher than the head) and allowed to decay till the bones are clean, after which the bones should be collected and burnt. Box-like receptacles on posts, as among the Madangs of Borneo, are occasionally substituted for the wrappers. On this journey some strange articles of diet were served up to the two members of the expedition, among them being red ants, toads, bee grubs, and a species of cicada. The manner in which the latter are caught is peculiar. Two or three natives gather at night round a brightly-burning wood-fire, one of them holding a lighted torch. The others clap their hands at regular intervals and the cicadæ, attracted by the noise and guided by the light, fly down and settle upon the people as they stand by the fire. On this same journey a couple of young leopard or panther cubs were picked out of their nest in a hollow tree by the roadside. But it was found difficult to feed them, and they were therefore suckled by a Siamese woman who claimed to have previously suckled a bear.

From Singora the party proceeded to Patani, and ascended Gunong Besar or Indragiri to a height of 3000 feet. The next place visited was Biserat, in Jalor (Jala), which proved an excellent collecting ground until smallpox broke out. The limestone caves here were thoroughly explored, including the fine Gua Gambar or Statue Cave, containing a colossal figure of Buddah about 100 feet in length. The party then proceeded by the overland route through Raman, Ligeh, Ulu, Kelantan, and up the Lebih, a distance of about 200 miles, performed by elephants, rafts, and boats, as far as Kuala Aring. Hence Mr. Skeat, with six Malays, set out on a scouting expedition to explore the route to the Tahan Mountain, the highest peak in the Malay Peninsula, which reaches an altitude of about 10,000 feet. Mr. Skeat's party was absent about five weeks from camp, and got sight of an unrecorded peak named Gunong Larong, or 'Coffin Mountain,' not much inferior to the Tahan Mountain.

The expedition then descended to the coast, and after spending about two months in the

* From the London *Times*.