sible to retain these orders any longer. Stoliczka came to this view long ago, and much corroborative evidence has come to hand since. In fact, there does not at present seem to be any good basis for ordinal divisions in the Lipocephala. The divisions adopted by Professor Lankester are not unnatural; but they appear to have merely an approximate value, and shade into one another to such an extent as to be of little systematic use.

(6) There is nothing to prevent any such conception; but, unfortunately, there is no evidence, as yet, that it would conform to any subjective reality. A parallel statement would be, that the wool on a ewe 'replaces' the horns on a ram. We can conceive that woolly or hairy secretions may be so modified as to produce horns, and, in fact, do produce them occasionally. The importance of the shell-gland in the embryonic condition of the Mollusca, as shown by Professor Lankester, than whom none have contributed more valuable investigations on this topic, forbids that we should consider these secondary cuticular products as its equivalent. That they are nothing less than identical with Chiton spines will, I think, be admitted by any one who compares the figures of Reincke and Hubrecht on Chitons and Neomenia respectively. There are also a great variety of other Chiton spines; and on some Fissurellidae, and even in some brachiopods, analogous structures may be found.

In conclusion, Mr. Editor, permit me to express the hope that these more or less unimportant defects in detail, which are inevitable to all work of a general character, may not obscure what I have endeavored to state clearly (namely, the great value and usefulness of Professor Lankester's work), nor delay what I believe will be its eventual consequence, — an important reformation in our general molluscan systems.

W. H. DALL.

The earthquake of Aug. 10.

It is a little remarkable that the earthquake-shock of yesterday should have been felt with considerable force in the city of New Haven, which is built upon a sandy plain, while it was perceptible only as a short series of lateral vibrations, lasting about a second and a half, and so slight that it was unnoticed by most persons in the vicinity of the observatory. The observatory is built on a sandstone ledge, and is about a hundred and fifty feet above tide-water, in (geodetic) longitude west 72° 55′ 19.15″, and latitude north 41° 19′ 28.48″.

At the time of the vibration the writer was sitting at a table, and its probable origin at once occurred to him. Allowing for the few seconds occupied in taking out his watch, the tremor occurred at 2 h. 7 m. 25 s.; and, as the watch at that time was 1.5 s. slow of the fifth hour west from Greenwich local mean time, the tremor may be set down as beginning at 2 h. 7 m. 27 s. by this mean time; and I should estimate the uncertainty at not more than 2 s.

LEONARD WALDO.

Yale college observatory, Aug 11.

On Sunday, Aug. 10, at 2 h. 8 m., I felt an earthquake, lasting three or four seconds. The oscillatory movement was from a little south of west, toward a little north of east. The oscillations were rapid but slight, with maximum intensity between the first and second second, when the movement began gradually to decrease. The accompanying sound was like the rumble of artillery-wagons. JULES MARCOU.

Cambridge, Aug. 10.

EPIDEMIC CHOLERA AND INFECTIOUS DISEASES.

THE presence of cholera this summer in epidemic form in southern France, the appearance of sporadic cases at widely scattered places and on shipboard at various seaports of the European continent and of England, have brought western civilization once more face to face with two of the most important problems which modern science and social organization can be called upon to solve. These problems just now come home to every one, but in ordinary years are put out of mind, or left to the care of laboratory devotees, or of officials charged with departments concerned with public hygiene.

The first involves a purely scientific question as to the causes, modes of origin, and ways of propagation, of the infectious or so-called zymotic diseases: the second, evolving itself naturally from the first, is of a more immediately practical nature, and deals with the processes best calculated to prevent and antagonize these diseases, especially when presenting themselves as epidemics. And these problems owe this much to such epidemics, — that by them men as individuals, and governments (their representatives), are stimulated to a vigor of inquiry and action which are never evoked by a customary rate of mortality, however high, from endemic diseases, such as are always with us; just as the stimulus of prospective want often meets with a ready response where chronic destitution makes an ineffectual appeal to action. Typhoid-fever, resembling cholera very much in its propagation, demands a steady toll from the populations of Europe and North America, compared to which the occasional ravages of cholera become insignificant; and yet it is impossible to inspire them with an intelligent dread of that enemy expressing itself in possible and comparatively simple precautions. The self-reliant Anglo-Saxon continues to regard typhoid-fever with a measure of the same indifference felt by the fatalist of India toward cholera; and the explanation is to be found,