

ever, on giving it any delicate morsel he may find. This observation appeared to me to be of sufficient interest to record in your columns, as the old male bird certainly in this case learnt how to feed the young one by observing the proceedings of the parent birds. He had never reared any young ones of his own, and had never had any opportunity of seeing other families brought up in the aviary.

E. BOSCHER.

Belle Vue, Twickenham, Aug. 1893.

#### Intrusive Masses of Boulder-clay.

THE letter of Messrs. Graham Officer and Lewis Balfour upon the glacial deposits of Bacchus Marsh suggests the desirability of uttering a word of caution against the assumption that boulder clay intercalated between two beds of rock is necessarily of intermediate age. I have repeatedly observed intrusions of boulder clay into the triassic sandstones of Lancashire and Cheshire, but never so striking an example as that described by Mr. Arthur R. Derryhouse in the current number of the *Glacialists' Magazine*. In his paper and the accompanying plate he shows how a series of glacial and triassic deposits were displayed in a trench in such a way as to give the impression that they were interbedded, sandstone being both below and above the glacial deposits. A minute examination established the fact that the drift deposits had been thrust in amongst the older rocks along a line of weakness due to the presence of a bed of marl. The intrusion had penetrated to a distance of *fifty yards* from the outcrop of the marl-bed.

I do not suggest that Messrs. Officer and Balfour have been misled by such an appearance, but merely warn geologists in general against falling into error.

We have heard much of late of floods and other catastrophes, even from geologists possessing a considerable intimacy with the phenomena of the British drift deposits. It would be interesting to learn in what way these injections of glacial sludge would be explained by the advocates of deluges.

PERCY F. KENDALL.

Yorkshire College, Leeds, August 14.

#### A Peculiar Discharge of Lightning.

I SHOULD like to add to the many recent accounts of lightning discharges the following particulars of which I have not yet seen any published account.

On the afternoon of Wednesday, July 26, during a storm at about 5.30, a blue flame was observed by some of the inhabitants of Epping to approach and shatter the chimney of a house upon the hill, occupied by Mrs. Brown and family at the time.

An examination of the interior of the house shows the discharge to have passed chiefly by the bell wires, which are fused, down one corner of a room upon the upper floor, breaking the back of a chest of drawers near, and setting the wall in the vicinity on fire.

On the ground-floor the discharge seems to have taken two paths to earth, viz. down the corner of a front room by means of some metallic damp-proof paper, and in the kitchen adjacent by means of some wooden cupboards, the doors of which were much broken and thrown across the room.

Mrs. Brown, who was seated in the front room, states that a few seconds before the house was struck she noticed what appeared to be a darkened space, surrounded by a crimson fringe of flame in the corner (perhaps a brush discharge), and her son in the kitchen at the time testifies to having seen a similar thing previous to what appeared to be the bursting of the luminous mass, which occurred with a loud report, filling the house with smoke and the usual accompanying smell of ozone. The walls are much damaged, and the polarity of a small compass in a drawer of a sideboard nearest the path of discharge was reversed. I considered the apparent forewarning of the brush discharge of sufficient interest to justify this letter.

WILLIAM BREW.

Electric Light Department, British Museum, August 8.

#### The Mean Density of the Earth.

IN a note in your issue of August 10, adding to the list of values for the mean density of the earth, which you gave on July 27, it is stated that Jolly and Poynting obtained the value 5.58. This is, I believe, the value obtained by von Jolly, but my final result, as published in the *Philosophical Transactions* for 1891, is 5.493

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In any account of recent work on this subject I think von Sterneck's experiments at Pribram and Freiberg deserve notice. These were made in the years 1882-5, and were pendulum experiments of the Harton Pit type. The method of comparing the times of swing of the pendulums below and at the surface was, I believe, quite new, and consisted in determining the coincidences with the same clock, which gave simultaneous half-second signals at the two stations by means of an electric circuit. The results unfortunately tend to confirm the conclusion which had, I think, been already drawn from Airy's work—that the mine method of experiment, though it may add to our knowledge of the constitution of the surface strata, is useless in determining the mean density of the earth.

Major von Sterneck's papers are published in the *Proceedings of the Militär-Geographisches Institut of Vienna*.

Penzance, Abergele, August 12.

J. H. POYNTING.

#### The Grouping of Stars into Constellations.

CAN you or some of your readers kindly give me an answer to the following questions, or tell me where I may obtain information on the subjects?

Did the Assyrians, Egyptians, Greeks, and Persians group the stars in the same manner into constellations? In cases where they did so were the constellations usually named by all the nations after the same animals?

How were the constellations, which we call after Greek heroes, named by Assyrians and Egyptians?

Do the different races of the present day, Chinese, Poly-nesi-ans, Hindoos, Negroes, Americans, &c., each group the stars in a peculiar way?

If each race has its own plan of grouping the stars can we make use of this peculiarity in ascertaining the affinity of various races and nations?

M. A. B.

Terriers Green, High Wycombe, August 11.

#### Numerous Insects Washed up by the Sea.

HAVE any of your correspondents mentioned the following fact? For the last two days, August 8 and 9, the shore at Dymchurch, Kent, and for more than two miles towards Hythe, was covered with countless quantities of winged ants washed to the shore by the waves. At low tide one sees three or four rims, so thick that each makes a black stripe, from two to three inches wide, running without interruption for more than three miles, and probably extending to a greater distance. We have had during these days winds from the north-east, very light on Tuesday morning, but strong since that.

Dymchurch, Kent, August 10. SOPHIE KROPOTKIN.

#### A Substitute for Ampère's Swimmer.

IN NATURE of July 27 Mr. Daniell gives a substitute for Ampère's swimmer. In Denmark we use the following simple rule given by Prof. Holten at least twenty years ago. The outstretched right hand is put in the current with the palm turned toward the magnet and the fingers in the direction of the current. Then the north-seeking pole will be moved in the direction of the thumb.

HANNA ADLER.

Copenhagen, August 3.

#### A Correction.

IN my paper on "The Chatham Islands: their relation to a former Southern Continent," just issued among the Supplementary Papers of the Royal Geographical Society, vol. iii., there occurs a slip in the third and fourth lines from the foot of page 9, which I should feel obliged by your kindly allowing me to correct in your columns. My attention has been called to it by Prof. Newton, of Cambridge. In quoting from his and Sir Edward Newton's observations in the appendix to Captain Oliver's voyage of Leguat, as to the "now submerged Continent," of which Rodriguez, Mauritius, Bourbon, and Madagascar are, according to them, the existing fragments, I inserted the words "named *Lemuria*, by Dr. Sclater" after the word "continent." These words of mine should have occurred within square brackets, the absence of which was, I regret, overlooked in the proof. "Now the old land-connexion," writes Prof. Newton, "of the Mascarene Islands with Madagascar, of which we spoke as probable, is not at all necessarily the same thing as 'Lemuria,' which Mr. Sclater supposes to have reached so ne of the Malayan countries."

61, Gleebe Place, Chelsea, S.W. HENRY O. FORBES.