

to. Moreover, he is mistaken in supposing that I am not acquainted with the facts and theories as to the structure and history of flint in its various conditions. As a matter of fact, this subject has occupied my attention during the greater part of a lifetime.

The specimens of "worked" flints from the sub-Crag detritus-bed—dealt with in my recent paper in the Phil. Trans.—have now been presented to the Department of Ethnology of the British Museum (Bloomsbury), and it is now possible, for those who wish to do so, to study the actual material upon which my statements are based, and to discuss them with the needful preliminary knowledge of the things under discussion.

E. RAY LANKESTER.

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#### Nautilus Pearls.

THE letter from Mr. H. Lyster Jameson in the last number of NATURE reminds me that I have in my possession a small pearl that is alleged to have been found in a Nautilus. It was given to me by a Dutch magistrate in North Celebes, who had in turn received it from a native. It is irregularly pear-shaped, and weighs 27.5 grains.

As there is so little substantial evidence that this or any other pearl or stone has really been formed within the body of a pearly Nautilus, I have never felt disposed to assert that I possess a Nautilus pearl. However, there can be no doubt whatever that there is a widespread belief among the natives of the Malay Archipelago and Polynesia that such pearls are occasionally found, and although in the Sulu Archipelago, according to Mr. Haynes's account, they are regarded as unlucky, in Celebes they are treasured as charm stones that bring good fortune.

Rumphius, in his "D'Amboinsche Rariteitskamer," published in 1702, gives a description of such a stone found in a Nautilus, and relates an interesting story connected with it. He says that the stone belonged to a Chinese woman in Boero, who had kept it in a little box and treasured it as a charm. One day she discovered that it had given birth to another small pearl, and later on two other small pearls were born in a similar manner. This statement reminded him of the story told by Pliny in Lib. 37 of the reproductive stones called Peantides and Gemonides.

SYDNEY J. HICKSON.

The University, Manchester, October 18.

#### Sailing Flight of Birds.

THERE can scarcely be a doubt that Prof. E. H. Hall has given, in NATURE of October 10, the true explanation of the sailing flight of gulls when they follow a ship without any movement of their wings. When there is a fairly strong head-wind or a wind which, without being strictly a head-wind, makes a small angle with the line of the ship's course, the gull has an up-current of air provided for him which will not only support him, but which, if he inclines his body (and supporting surfaces generally) slightly downward, will enable him to make headway.

Sometimes the gull will hang directly over the stern, at others slightly to windward, at others, but I think not so often, slightly to leeward. Some experiments which I once made with a vane that worked vertically showed that when the wind strikes a bank six feet high at right angles, there is a steady up-current four yards to windward. Five yards to leeward there was a down draught, and some ten yards to leeward irregular up-and-down draughts. Recently in Texel I frequently saw gulls hovering with motionless

wings a few yards to windward of embankments some twenty feet high.

F. W. HEADLEY.

Haileybury (Hertford), October 13.

#### The Zodiacal Light.

AS of possible interest to some of your readers beg to report to you a phenomenon which I have observed here during the last ten days. It may be described as follows: every evening after sunset when twilight has completely died out of the western sky there is observable an illumination, starting due west and extending upwards to a height of about 40° above the horizon, fading away towards the top; in character it is much like the Milky Way, a little broader at its base, slightly less brilliant but more uniform. It extended this evening (August 10) from a point due west at 7.30 p.m., Gallegos mean solar time, upwards to a height of about 35° from the horizon, in the direction of the planet Jupiter, inclining towards the north at an angle with the horizon of about 60°. A curious fact I noticed in connection with this phenomenon was that it was best observed when the rays from it were allowed to fall on the periphery of the retina, as when the eyes were fixed on a point about 20° distant. It could be observed for about two and a half hours after sunset, gradually setting in the west. I presume this is the zodiacal light, but as I never noticed the same phenomenon in these latitudes (51° south) before, I thought it worth while mentioning the fact.

E. G. FENTON.

Rio Gallegos, Patagonia, Argentine Republic,  
August 10.

#### Colours of Plasmodia of Some Mycetozoa.

To my communication under this heading that appeared in NATURE of June 23, 1910, p. 489, allow me to make the following additions:—

Species of Mycetozoa.	Colours of Plasmodia.
<i>Physarum variabile</i> , Rex, var. <i>sessile</i> , Lister	Orange yellow.
<i>Colloderma oculatum</i> , G. Lister	Dingy watery-white with greenish or olivaceous tinge, then ochraceous, ultimately ferruginous and dirty throughout.
<i>Cribraria intricata</i> , Schröd.	Pitch-black when the plasmodium is thick, and oil-brown when it is thin; in either shade it closely simulates the solution of asphalt in oil of turpentine.
<i>Perichaena chryso sperma</i> , Lister.	Stated to be pale brown in Lister's "Monograph," second edition, 1911, p. 248, but I found it to be pallid pink.
<i>Craterium concinnum</i> , Rex.	Said to be yolk-coloured in the same work, p. 95, but I found it milky, then cream-coloured.

Since my letter above mentioned was published, I have gathered nineteen species new to Japan, which make the native Mycetozoa taken altogether amount to 105 species, of which three are new to science, viz. *Arcyria glauca*, Lister, *Hemitrichia minor*, G. Lister, and *Diachaea robusta*, G. Lister.

KUMAGUSU MINAKATA.

Tanabe, Kii, Japan, September 17.