

and the sun across the sea. One of your correspondents has suggested a more probable origin, viz. particles of ice in the air. From other correspondents it seems that the sun column is not always vertical, which might be the result of the general flame of the reflecting surface not being parallel with the earth's surface.

In the June number of the *Philosophical Magazine* there was a notice of a sun column as seen at Orkney by the Rev. C. Clouston, who at that period made meteorological observations for that publication. He says that in the month of April of that year the drought was unprecedented, the atmospheric pressure great, and the temperature high. I believe two of these characteristics belonged to the recent month of April if not the third, the high temperature. He says it was seen six times, and once or twice before he noted the date, and also before sunrise

Saltburn, May 21

E. R. TURNER

#### Sheet Lightning

MAY not this be an auroral phenomenon, at times, at least, and hence the differences of opinion as to its nature? Reading Wilkes's "Narrative of the U.S. Expedition," I find the following:—"On the 7th February (1840) the weather had become less boisterous, and having reached latitude 49° S., longitude 155° 23 E., the aurora Australis again appeared. It was first seen in the north, and gradually spread its coruscations over the whole heavens; the rays and beams of light radiating from nearly all points of the horizon to the zenith, when their distinctive outlines were lost in a bright glow of light, which was encircled by successive flashes, resembling those of heat lightning on a summer's night. These formed a luminous arc in the southern sky, about 20° in altitude, from the upper part of which rays were continually flashing towards the zenith. Light showers of rain finally shut it out from view."

FRED. PRATT

Clapton Park, May 25

#### Pocky Clouds

FOR twenty years I was constantly observing the forms and appearances of the clouds, as clues to the weather and its changes. I observed this form on a very great number of occasions, and from experience always came to the conclusion, "no rain to-day," and I can only remember two occasions on which the conclusion was not justified. I saw it again a few days ago, with the same result of good weather.

I always termed it the "bubble" cloud till I saw Dr. Clouston's work. It seems to me to be a body of vapour the upper surface of which is being acted upon by an upper current of very dry and rarefied air, causing a great and rapid evaporation, and thence a gradual and unequal cooling and shrinkage of the under surface in the detached globules from which it takes its name. I have seen a very simple illustration while passing through the laundry, and observing a neglected trough of soap-suds cooling down and nucleating in the exact form presented by the pocky cloud, and with the same gradations of tint.

This kind of cloud is generally observable at periods most probable for storms and electric condensations, the which, acting at a distance, would influence outlying areas of upper atmosphere and cause this form of cloud condensation in the way explained. In my observations I have generally found the cloud revert to uniform sheet stratus rather than to disappear in cloudlets in the upper air.

FRED. PRATT

Clapton Park, May 25

#### Clerk Maxwell's "Devil on Two Sticks"

IN the very interesting life of Clerk Maxwell which has lately appeared there are frequent references to a philosophical toy, from which he seemed to derive endless amusement. He calls it the "devil on two sticks." Can you give your readers any account of it? The editors take it for granted that the apparatus is well known, but I cannot find any one here who can tell me what it is.

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#### The Centres of a Triangle

CONTINUING my suggestion in your number of May 3 (p. 7), I propose not only to call the circle circumscribing a triangle the *circumcircle*, but also to call its centre the *circumcentre*, and in the same way to speak of the *incentre*, the three *excentres*

(namely, the *a*-excentre, the *b*-excentre, and the *c*-excentre), and the *midcentre*.

The line joining the circumcentre to the orthocentre, on which the *m*-asscentre and the *m*-idcentre lie, may be appropriately called the *central line* of the triangle.

Similar abbreviations would apply to the radii of these circles; they might be spoken of as the *circumradius*, the *inradius*, the *a*-*exradius*, the *b*-*exradius*, the *c* *exradius*, and the *midradius*.

May 25

W. H. H. H.

#### THE ROYAL GEOGRAPHICAL SOCIETY

THE annual meeting of the Royal Geographical Society on Monday was of rather more than usual scientific interest. Sir Joseph Hooker was presented with the Royal Medal which the Society has awarded him, Mr. Colborne Baber being the recipient of the Patron's Medal; while among the speakers at the dinner, besides Sir Joseph Hooker, were Mr. Spottiswoode and Prof. Huxley. From the address of the President, Lord Aberdare, it is evident that geographical research, and especially exploration, has been as active as ever during the past year, yet, as the speakers we have named pointed out, the discovery of new countries must have a limit, and in time must come to an end. Still there will be plenty of work for geographers to do in the wider acceptance of the term geography, implied in the presentation of the Royal Medal to so distinguished a botanist as Sir Joseph Hooker. In the words of Mr. Spottiswoode, and as we have frequently pointed out in these pages, geography in its modern acceptance includes "an accurate delineation of the earth's surface, and an exact account of its inhabitants and of their habits, of the animal and vegetable life, and its distribution over the face of the globe." In this direction the Society has a long and brilliant career before it. But as Prof. Huxley humorously pointed out in replying for the "other societies," these societies "were all growing a little dull. He did not say this in the way of reproach. The progress made in research and accuracy in methods of procedure involved that consequence. So long as there were large regions of knowledge which the methods of modern science had not penetrated, so long was it possible to go to meetings of societies, and to hold brilliant discussions. Looking at the means which now existed for the diffusion of information, he had been led to think that in many cases where the field of knowledge had been extensively explored the utility of societies was constantly diminishing, and that sooner or later it would be necessary to devise other means of effecting the results now attained by meetings of societies. But there was one thing which would not be reached at any period of time by any other organisation than that of societies, and that was the stimulus which was given by their meetings to investigators; and the reward they found for their toils and sacrifices in such a welcome as had been given that night to his long-tried friend Sir J. Hooker."

The prosperity of the society continues to be maintained.

Mr. Clements Markham read the annual report, which showed that during the year the number of Fellows elected was 163, besides three honorary corresponding members, and the total number of Fellows on the list (exclusive of honorary members) was 3392. The total net income for the financial year ending December 31, 1882 (exclusive of balance in hand and 1005*l.* sale of Exchequer Bills) was 7937*l.*, of which 5652*l.* consisted of entrance fees and subscriptions. The net expenditure during the past year was 8779*l.*, including 1135*l.* spent on expeditions. The sale of 1000*l.* of Exchequer Bills was rendered necessary to meet the Society's contribution to the Eira Relief Expedition, but this sum had since been generously presented to the Society by Mr. Leigh Smith. The investments and assets of the Society on December 31, 1882, exclusive of the map collection and library, amounted to 39,831*l.*