is to "strike them with fasting spittle," *i.e.* to apply saliva when rising in the morning, before any food has been taken. G. HAROLD DREW.

Marine Biological Laboratory, Plymouth.

Orthite in North Wales.

IN March, 1908, an unfamiliar mineral was discovered by Mr. W. G. Fearnsides in a narrow vein which traverses the intrusive granophyric mass of Tan-y-grisiau, near Ffestiniog, and was submitted to me for identification.

It has proved to be the somewhat rare silicate *orthite*, and its occurrence will be of considerable interest to mineralogists both on account of the amount of material available and for the large size of the crystals, which range up to 1½ inches in greatest dimension.

Hitherto orthite, which contains a number of the rarer elements, such as cerium, lanthanum, didymium, yttrium, &c., has not been found in any quantity in Britain, and then only as microscopic crystals and grains. The crystals from Tan-y-grisiau are well-formed, black to dark grey, submetallic tables with bright faces; they are conspicuously tabular, parallel to the form T{100}, and are modified by narrow prism and dome faces.

It is the "unknown and very interesting mineral" to which the attention of those members of the Geologists' Association who took part in the long excursion to North Wales this year was directed.

The exact locality is the north-west face of a quarry at Cefn-bychan, south of Tan-y-grisiau, Blaenau-Ffestiniog, belonging to the Ffestiniog Granite Quarries Co., Ltd.

The physical properties of the orthite are undergoing investigation, the results of which will be published at a later date. HERBERT H. THOMAS.

Geological Survey and Museum, Jermyn Street, S.W.

Drought in South-west Ireland.

WHILST all round us have been reports of wintry weather and unceasing rain during the summer months, we in this small south-westerly area of Ireland have been passing through a period of abnormal drought, in fact a record season, accompanied by high temperature throughout.

I have recorded the annual rainfall here (Bandon) for some years, but I have never had anything approaching a similar experience, and the oldest inhabitant here cannot recall so continued an absence of rain as we have felt this season, that too in a country where the rainfall is generally excessive. I am bound to say, however, that the elements are *now* distinctly making up for lost time, as though in revenge for letting us off so easily before.

I give you the rain-gauge readings for the months June, July, August, and September, which speak for themselves, and may perhaps prove of some interest to your readers.

The readings were taken with a 5-inch Negretti and Zambra gauge, and registered daily:—

June.—Total for month, 1·08 inches. Twenty-five days absolute drought. Highest reading=0·47 inch, on June 24.

July.—Total for month, 1·02 inches. Twenty-three days absolute drought. Highest reading=0·34 inch, on July 10.

August.—Total for month, 0·54 inch. Twenty-five days absolute drought. Highest reading=0·32 inch, on August 1.

September.—Total for month, 0·41 inch. Eighteen days absolute drought. Highest reading=0·08 inch, on September 28. GEO. A. ARMSTRONG.

Ardnacarrig, Bandon, Co. Cork, October 13.

The Meteor in Sunshine, October 6.

THE great daylight meteor of October 6 was observed by many persons in various parts of the country. The particulars to hand are not, however, very definite, and it is scarcely possible to compute the real path of the object. From a comparison of about fifteen descriptions, there seems little doubt that the meteor moved in a direction from south to north over Reading, Thame, and on to a termination near Market Harborough.

The radiant point was in Leo, and it is hoped that more observations of an exact character will be supplied. The sky was clear over a large extent of England, and hundreds of persons saw the meteor, though only a small proportion of that number have reported their observations.

The great daylight meteor of 1900 January 9 was directed from Aquila, that of 1894 February 8 emanated from Hercules. It is seldom that meteors appearing at such times can be suitably observed, as the sky does not afford any reference objects such as is furnished by the stars at night. W. F. DENNING.

An Aurora Display on October 18.

I WITNESSED last night one of the finest displays of the aurora borealis which it has been my good fortune to see in this country. It happened at about 9 p.m., and I was at the time upon one of the highest summits of the Cotteswold Hills, close upon 1000 feet above the sea-level, so that I had an uninterrupted view of the magnificent spectacle. The first I saw of it was several streamers and an indistinct band low down on the northern horizon, with a detached red, cloud-like portion almost due west. These resolved themselves eventually into two bands, the uppermost stretching right across the sky from north-west to north-east, and during the maximum phase of the phenomenon was a truly grand spectacle, with numerous streamers connecting the two bands. The uppermost band finally faded away, leaving the lowermost one still visible but very indistinct, with two or three faint streamers shooting upwards.

I take this opportunity of inquiring what is the most austral or equatorial limit from whence the aurora borealis is visible, or rather has ever been observed? This subject is of particular interest to me from the circumstance that when I was at Darjeeling some years ago I was informed that the phenomenon had been seen from thence, although this well-known hill station is so far south as 27° north latitude. Although it is not impossible for it to be seen from the altitude of Darjeeling (which is 7500 feet above the sea-level), for far away are seen the tops of the Himalayas, I feel convinced that what has been seen from thence, and mistaken for the aurora, is nothing more than the after-glow or reflection from the snow-fields and glaciers upon exceedingly thin masses of aqueous vapour, or rather spicules of snow, floating upwards to 1000 feet or more above the summits of the highest Himalayan peaks. This latter phenomenon I frequently witnessed after sunset, and it certainly possessed the appearance, upon many occasions, of the aurora, hence the mistake, possibly, of unscientific observers. W. HARCOURT-BATH.

October 19.

Jupiter's South Tropical Dark Area.

ALL the transit estimates, numbering fifty-two, of the south tropical dark area on Jupiter, obtained during the apparition of 1908–9, have been reduced to longitude. The area in 1908 December was found to be more than 50° in length at the south equatorial belt. From this date to the close of the observations in 1909 June its dimensions exhibited a gradual increase, and in the latter month it covered considerably more than 90° of longitude. This longitudinal growth was due chiefly to a marked difference in the observed rate of velocity of the two ends of the area. While the preceding end drifted at a pretty normal rate of 15° per month in excess of the adopted zero meridian of System II., the following end exhibited a monthly drift of only 9°. The following part of the area, therefore, was not keeping pace with the preceding portion, and accordingly the object itself became distended in longitude.

The mean rotation period of each end, as well as the middle, of the area would seem to have been as under:—

Number of observations	Number of rotations	Mean daily drift	Mean rotation period
		°	h. m. s.
20 ...	430 ...	+0·4823 ...	9 55 20·8
16 ...	295 ...	−0·3754 ...	9 55 25·3
16 ...	379 ...	−0·2989 ...	9 55 28·3

The above period for the following end is the longest that has been recorded, either for this or any other part of the area, the existence of which became known in 1901 February.

Leeds, October 15. SCRIVEN BOLTON.