

the genus *Ceratodus*. Is not all this the most palpable evidence that there exist in nature types which combine structural features that are entirely separate in other types? and it is to such types I have applied the name of synthetic types."

Lumiere Cendree

It may perhaps be of some interest to you to know that the phenomena of "Lumiere cendree" was distinctly seen in Surrey on the evening of the 25th inst., between 4 and 5 P.M. With the aid of an opera-glass, I saw clearly the whole of the dark portion of the moon's disc; and some friends who were with me at the time were able to see it with the naked eye.

H. G. S. SMITH

Trinity College, Cambridge, Dec. 27

Measurement of Mass

WITH reference to the very favourable notice in your last number of my edition of Deschanel's "Traité de Physique," will you allow me to remark that my reason for rewriting the section on *mass* (§ 42) was that Deschanel, in accordance with what has been till recent years an almost universal custom, employs a variable unit of force, and, as depending upon this, a variable unit of mass, so that the number denoting the mass of one and the same body is diminished as the body is carried from the equator to the poles, and would increase up to infinity if the body fell to the centre of the earth.

The reviewer says, "the conception of *mass* is always a difficult one for a beginner." This is doubtless true when the conception is hampered with the inconsistencies arising from this vicious system of measurement; but I do not think the conception of a *pound* or *gramme* of matter presents much difficulty, and these are the units in which, according to the best modern usage, I have indicated that mass is to be expressed.

As regards the coefficient of absorption of ammonia, the reviewer is right. A mistake was committed in extracting the number from a table, of which, if I may judge by his initials, the reviewer is the author. In future, I would entreat him to make his tables more easy of reference.

J. D. EVERETT

Belfast, December 26

Hailstones

IN NATURE of the 15th there is an account of hailstones of a form deviating considerably from the spherical. Hailstones are frozen raindrops, and a rain-drop falling through a vacuum would of necessity be spherical, but in falling through the air it must tend to assume the form of least resistance, whatever that may be. I was told many years ago of hailstones which had been picked up and found to be of the form of Minié bullets. I do not vouch for the truth of this, but I think it likely; the Minié bullet was, I believe, the nearest approach to the form of least resistance that the inventor was able to arrive at.

JOSEPH JOHN MURPHY

Old Forge, Dunmurry, Co. Antrim, Dec. 20

Darlingtonia Californica

MR. ROBINSON'S suggestion, reported at page 159, as to the cultivation of this plant in England, has been anticipated by Messrs. Veitch and Sons, who have grown the plant for a considerable time in their houses at Chelsea.

In London, as in California, this curious plant possesses the same irresistible attraction to insects, and as I have repeatedly examined living plants at Chelsea, perhaps the following notes taken in connection with those printed in your last number may have some interest.

This so-called "pitcher plant," when fully grown, resembles in shape the upraised head and body of an excited cobra, with hood expanded and prepared for a spring; the head is at right angles with the hollow vertical body, and apparently presents no opening by which an insect could enter; under the place where the lower jaw would be, hang two large reddish appendages like the "wattles" of a fowl. At Chelsea this plant possesses such an extraordinary attraction for flies (principally blue-bottles), that the hollow "pitchers" are generally full of their dead bodies; what this attraction is I am unable to say, as the plant is scentless.

Last year I had a *Darlingtonia* before me for some three or four hours, whilst sketching it, and I then observed that the blow-flies made straight for it immediately they entered the room. Insects alight on the red "wattles" and then fly upwards into the (previously unseen) red-lipped entrance to the tube; owing to the sudden twist in the neck of the pitcher, they are at once compelled to descend the hollow body, and, as far as I have observed, they never return alive. They keep up a buzzing noise for half an hour or so, and then apparently die.

The old "pitchers" are generally full of dead flies, &c., and the lowermost insects, in rotting, cause the "pitchers" to decay and split, the flies within being then displayed. These dead flies often drop out through the fissures and become grouped round the bottom of the plant.

WORTHINGTON G. SMITH

Aurora Arcs in the East

I AM inclined to agree with Dr. Burder as to the invisibility of Auroras by daylight, yet I can confidently assure him that I have many times seen the arch "almost due east," that is when the extremities point N.N.W. and S.S.E. When such a phenomenon occurred in Newfoundland, some of the old weather-wise settlers would tell me to expect falling weather (snow or rain) on the following day, as the Northern Lights were in the south. But I am sorry to say that I did not note how often the Aurora appeared as above, but I *did* note that snow fell on *seventy-eight* consecutive days in the autumn of 1867 and commencement of the winter of 1868.

HENRY REEKS

The Milky Way

IN the number of NATURE for November 17, Mr. John Jeremiah states that "Heol y Gwynt" is the only proper Welsh name for the Milky Way. Such is far from being the case. I am acquainted with no less than *nine* other names, equally proper for that luminous appearance, such as *y llwybr llaethog*, *y ffordd laeth*, *llwybr y gwynt*, *galaeth*, *eirianrod*, *crygaidwen*, *caer Gwydion*, *llwybr Olwen*, and *llwybr y mab afradlawn*. Of these names, *y llwybr llaethog* and *y ffordd laeth* answer precisely to Milky Way; *llwybr y gwynt* (common enough in Carmarthen-shire) is synonymous with *heol y gwynt*; *galaeth* (from *laeth*, milk) corresponds with galaxy; *eirianrod* signifies a bright circle; and *crygaidwen* a white cluster. To *caer Gwydion* (the mural enclosure of Gwydion) belongs a tale, which may be compared with the stories of classical antiquity on the same subject. Gwydion is a noted character in early Welsh romance, in which he figures as an astronomer and an enchanter. He was the son of Don, king of Llychlyn or Scandinavia, and is said to have lived in the fourth century. According to the Welsh poets, he travelled through the heavens in search of a lady, who had eloped with Gronwy Befr, and left a track behind him, which has ever since been called *Caer Gwydion*. When he found the faithless lady he changed her into an owl. His scientific acquirements are often mentioned in Welsh mythology, and frequent allusions are made to him as an enchanter by the early bards. He is said to have been instructed in magical arts by Math ab Mathonwy, and in the Mabinogi, or tale which bears the name of the latter, his achievements are detailed at length. According to some of the Welsh records he was buried at Morfa Dinlle, on the seashore near Carnarvon.

Gwydion is not the only one of the family of Don whose name is associated with astronomy. Don himself gave his name to the constellation of Cassiopeia, which is called in Welsh *Llys Don*, the Court of Don; and *Caer Arianrod*, the Corona Borealis or Northern Crown, is so called after his daughter Arianrod.

Llwybr Olwen (the path or course of Olwen) refers to another distinguished character in Welsh mythology. Olwen was the daughter of Ysbyddaden Bencawr, a prince of the Northern Britons, who lived in the sixth century. Her extreme beauty was proverbial, and her charms are frequently alluded to by the ancient bards. It is stated of her that four white trefoils sprang up wherever she trod, and from this circumstance she was called *Olwen*, or white track. She was sought in marriage by Cilhwch, prince of Clyddon, and his adventures in order to obtain her form the subject of the Mabinogi of Cilhwch and Olwen, which will be found printed, with an English translation, in Lady Charlotte Guest's "Mabinogion," ii. 197, 249.

What connection the other name, *llwybr y mab afradlawn* (the path or course of the prodigal son), may have with the