

British Mosses

NOT having noticed in the last number of NATURE, Oct. 12, any correction made by either the Rev. Mr. Berkeley or Dr. Dickie, of a statement made by the former gentleman in the previous number, Oct. 5, which, as it reads, is calculated to lead to error, if left unnoticed, I send you this note.

In the short paragraph at p. 446, "Notaris on Mosses," Mr. Berkeley, in correcting a previous omission having reference to the genus *Habrodon*, states that *Conomitrium julianum* had been sent to Dr. Dickie by Mr. Wilson from his district, Warrington. This being only one side of the truth, I take the liberty of supplying the other side. Any person reading the paragraph as it stands would certainly suppose that this very elegant, and very remarkable moss was a native of the Warrington district, which it is not, nor of any other part of the British Isles that I am aware of. No doubt Dr. Dickie received fresh specimens of the moss from Mr. Wilson at Warrington, as I also did, but they were of foreign origin, and only cultivated by Mr. Wilson in his little conservatory at Warrington, where he had them placed in a large-mouthed jar filled with water, in which condition I saw the plants during the month of October, 1870, on the occasion of the last visit I paid to my now departed friend.

I may further remark that I had been led to suppose it was Dr. Schimper, of Strasburg, who first made known the genus *Habrodon* to be British. In the summer of 1865 he and the late Mr. Wilson paid me a visit at Dublin, and after leaving Ireland, Dr. Schimper accompanied a party to the Highlands of Scotland, on which excursion the *Habrodon* was discovered growing on trees near Killin, whence I have specimens from the party, which were collected on that occasion.

Glasniven, Oct. 16

D. MOORE

Corrections

A PARENTHETICAL passage in my "note on the Cycloid" has been transposed. Instead of "(a luminous point for the nonce) the sun in the meridian," &c., it should have been "the sun (a luminous point for the nonce) in the meridian," &c.

In Mr. Abbott's paper on η Argus and its surrounding nebula there occurs the statement that I consider "an increased or decreased distance in space may account for the fluctuations of the nebula." I have never suggested such an explanation. What I have said is that the fluctuations, if real, would seem to suggest that the nebula has not those inconceivably vast dimensions which would correspond to the vast distance once assigned to it. My opinion was (and is), *not* that the nebula is nearer than it was formerly, but that it is nearer than it was formerly supposed to be.

RICHD. A. PROCTOR

A Universal Atmosphere

WILL you permit me to ask Mr. Mattieu Williams how, on his hypothesis, "that the atmosphere is universal, and that each planet attracts to itself an atmosphere in proportion to its mass," he accounts for the well-known fact that the moon shows no signs of an atmosphere sufficient to produce any indication of refraction during the occultations of a star?

I think Mr. Williams's book deserves far more attention than it has received, so I trust I shall be acquitted of any wish to indulge in carping criticism.

111, Minorities, October 10

JOHN BROWNING

The Temperature of the Sun

HAVING been absent from home I have but just seen Mr. Ericsson's article on the "Temperature of the Sun" in NATURE, (No. 101, p. 449). All who feel an interest in the subject must be indebted to Mr. Ericsson for the experimental evidence which he has contributed to the investigation, and for such further light as his ingenuity will doubtless enable him to throw upon it; but few, I think, will be inclined to admit that the reasoning advanced in his recent article justifies in any degree the inferences which he has there drawn.

At the outset of the inquiry it does not seem very likely that we shall gain much correct knowledge of the condition of the solar atmosphere by inquiring what that condition would be if it were replaced by a medium similar to the terrestrial atmosphere, and containing the same quantity of matter for corresponding areas of the spherical surface. If the case were otherwise it would be necessary to point out that Mr. Ericsson's numerical results are vitiated by his omission to consider that the volume of

a sphere varies as the cube of the radius, and therefore that on the data assumed by him the earth's atmosphere raised to the temperature of the solar surface, instead of attaining a height of 279,006 miles, would barely reach to one-twelfth of that limit.

But I may further remark that the assumptions on which Mr. Ericsson's calculations are founded are open to many objections. It is far from certain that the direct proportion between the increase of volume of gases at constant pressure and the increase of temperature, holds good for an enormously high temperature such as prevails in the solar atmosphere, and it is certain that the resistance offered by that medium to the passage of radiant heat depends not solely or mainly on its temperature, but on its chemical—*i.e.* its molecular—constitution.

It may further be noted that Mr. Ericsson's experiments on the diminution of heat emanating from a disc of incandescent iron, according to the angle at which its face is inclined to a fixed thermometer, do not justify similar conclusions with regard to heat emanating from a mass of incandescent gases or vapours. At the same time it may be regretted that Mr. Ericsson has not given fuller details respecting the experiments in question, which may give valuable results irrespective of the conclusions to which he has applied them.

JOHN BALL

Flight of Butterflies

CAN you tell us where the yellow butterflies are going?

About ten days since, while chatting with several gentlemen at the Jackson Sulphur Well about caterpillars, one of them remarked that the worm was about, for, says he, the yellow butterflies are all going east.

We thought at first he was telling us a "fish story," but soon became convinced that he knew whereof he spoke, for while we sat there a great number of bright-coloured, medium-sized butterflies came by us, all winging their way towards the rising sun.

Now, we do not think that this fly is related to the caterpillar, for the moth that lays the egg of that destructive worm is a very different fly; nevertheless it is a singular fact that they are all going east.

I have been at several different points since leaving Jackson, and at every place they fly the same way. Can you tell us whither they go? Perhaps if you will ask the question in your widely-circulated journal, some naturalist, or somebody over to the eastward, may tell us where they rest.

Mobile, Sept. 6

ALA

[A similar fact will be found recorded in our "Notes" respecting the *Urania leilus*.—ED.]

Velocity of Sound in Coal

THIS is a very interesting subject, at least to those who have anything to do with coal mines. And yet I have not met with anything that points to it, nor any formula whereby it might be calculated. But perhaps this is a subject to which the attention of physicists has not been drawn. I have been told that blasting has been heard at the distance of 150 yards underground, and I have heard the signals of the colliers, *i.e.*, by hitting the surface of the coal with one of their tools, at the distance of fifty or sixty yards, and have also heard the shouts of the men at the distance of fifteen yards; but I have never met any person who could give the velocity, nor seen any book on physics in which there is anything concerning it. But perhaps it is a very hard subject to deal with from the difference of the specific gravity of the coals, and also the different temperatures that we meet there. And it from these different causes it would be hard to find the real velocity, yet by calculating a velocity that might be rather theoretical at first, we might by degrees come nearer the truth.

D. JOSEPH

Ty Draw, Pontyfridd, Oct. 5

Prof. Newcomb and Mr. Stone

I AM obliged to Mr. Lynn for pointing out that the statement by "P. S." was contradicted. I had not been aware of this. It never occurred to me to doubt either the authorship or the authenticity of the statement. I cannot tell how it chanced that "W. T. L.'s" response escaped my attention. Perhaps I never saw the January number of the *Astronomical Register*; or, perhaps, a variety of other reasons which would not interest your readers.