

very extreme accuracy in the drawings, not being a practised draughtsman, but the sketch gives a very fair idea of the number, form, and arrangement of the immense cloudy mass, whose height was about 50" and its length 330" (22,500 miles by 1,350,000). The points *a* and *b* were very bright.

2. +135° small, but very bright at the base, of this form (Fig. 2).

3. -85° of this form (Fig. 3).

The dark spot, marked *c*, was very curious, reminding one strongly of the so-called fish-mouth in the nebula of Orion. I saw no change in it for 20 minutes. On the other hand, the first

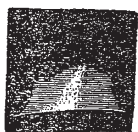


FIG. 2.



FIG. 3.

series mentioned were changing rapidly, so that at five o'clock the sketch which was drawn at two was quite inapplicable, only the general features remaining unaltered.

4. -128°, about 20" high, forked, as in Fig. 4.

The structure was *cirrus* in every one but No. 3, which seemed more like a mass of cumulus.



FIG. 4.

To-day, for the first time, I saw *b*₁ reversed in the chromosphere when the slit was tangent to disc; 1474 was easy; the new line at 2602 cannot be detected as yet.

At 2.25, while examining the spectrum of a large group of spots near the sun's western limb, my attention was drawn to a peculiar double *knobbiness* of the *F* line (on the sun's disc, not at the edge), represented by Fig. 5, *a*, at the point *a*. In a very few moments a brilliant spot replaced the knobs, not merely interrupting and reversing the dark line, but blazing like a star near the horizon, only with blue instead of red light; it remained for about two minutes, disappearing, unfortunately, while I was examining the sun's image upon the graduated screen at the slit, in order to fix its position, which was at -82½, about 43" from the edge of the limb, about 15" inside of the inner edge of the spot-cluster. I do not know, therefore, whether it disappeared instantaneously or gradually, but presume the latter.

Fig. 5, *b*, attempts to give an idea of the appearance. When I returned to the eye-piece, I saw what is represented at Fig. 5, *c*, &c. On the upper (more refrangible) edge of *F* there seemed to hang a little black mote, making a *barb*, whose point reached nearly to the faint iron line just above *F*. As given on Angström's atlas, the wave-length of *F* is 486.07, while that of the iron line referred to is 485.92 (the units being millionths of a millimetre). This shows an absolute change of 0.15 in the wave-length, or a fraction of its whole amount, represented by the

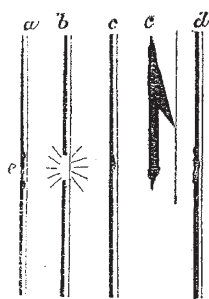


FIG. 5.

decimal 0.00030, and would indicate an advancing velocity of about 55.5 miles per second in the mass of hydrogen whose absorption produced this barbed displacement.

The barb continued visible for about five minutes, gradually resolving itself into three small lumps, one on the upper, and two on the lower line, Fig. 5, *d*. In about ten minutes more, the *F* line resumed its usual appearance. I did not examine the *c* line, as I did not wish to disturb the adjustments and risk losing some of the curious changes going on under my eye.

After the close of this strange phenomenon, I examined, with our large telescope of 6-inch aperture, the neighbourhood in which this took place, and found a very small spot exceedingly close to, if not actually at, the place. This was at 2.45. At 5.30 it had grown considerably.

Undoubtedly, the phenomenon seen was the same referred to by Mr. Lockyer when he speaks of often seeing the bright lines of the prominences not only at the sun's limb but on his disc. It is the only time I have had the good fortune to see it as yet.

GEOLOGY

Structure of Eophyton

THE *Geological Magazine* for the present month contains a paper by Mr. Henry Hicks, describing the structure of a fossil, from the Lower Arenig rocks of Ramsey Island, near St. David's, which he considers to be an *Eophyton*, resembling *E. Linnaeanum* of Torell. The rocks in which this fossil occurs rest conformably upon Upper Lingula flags, and underlie rocks of the Skiddaw or Tremadoc series.

Mr. Hicks describes and figures the fossil under the name of *Eophyton (?) explanatum*. He describes it as a moderately convex stem, about four lines broad, jointed, and ribbed throughout its whole length. At one joint in the specimen described, the ribs bend outwards, as if to form a branch. The stem is covered by a very thin cortical substance, within which it is composed of minute tubular columns, lying close together, and running the whole length from one joint to another.

The *Geological Magazine* also contains papers by Mr. Ruskin on Banded and Brecciated Concretions, illustrated with a plate and several woodcuts; by Mr. Poulett Scrope, on the pretended raised Beaches of the Inland Slopes of England and Wales, severely criticising Mr. D. Mackintosh's recent volume on Geology and Scenery; by Prof. Harkness, on the middle *Pleistocene* deposits of Britain; by Mr. R. Tate, on additions to the list of British *Brachiopoda* of the secondary rocks, including a table showing the distribution of the British *Liassic Brachiopoda*; and by Mr. W. H. S. Westropp, on the occurrence of "albite" in the granite of Leinster. Lord Emmiskillen contributes a catalogue of the type specimens of fossil fishes in his collection. The number also contains the usual notices, reviews, and abstracts of the proceedings of societies, correspondence, &c.

SOCIETIES AND ACADEMIES

LONDON

Chemical Society, December 2.—Dr. A. W. Williamson, F.R.S., in the chair. Sir Roderick Murchison, Bart., F.R.S., Messrs. M. H. Cochrane, Edward Smith, T. Walton, M.R.C.S., G. M. Hopwood, John Wiggan, Thomas Gibb, and George Harrison were elected Fellows. A paper on some points of the Chemical Nomenclature of Salts by Mr. H. G. Maden was read. The author advocated the use of the prefixes "proto" and "per" instead of the terminations "ous" and "ic" in the nomenclature of salts, and expressed his preference for the systematic names formed from English words, as "copper sulphate." Dr. Atfield recommended an adherence to trivial names like "calomel" and "corrosive sublimate," when possible, as changes in theory necessarily led to inconvenient alterations in nomenclature. Dr. Williamson objected to Mr. Maden's proposal to revert to the use of the prefixes "proto" and "per," on the ground that they had formerly produced great confusion, particularly in the nomenclature of the chlorides of mercury. He advocated an extension of the use of the terminations "ous" and "ic," which indicated the places of compounds in a series without binding chemists to particular views of constitution. He thought Mr. Maden's preference for English words might be carried too far and produce such terms as "brimstonic acid" and "charcoal oxide." Mr. Vernon Harcourt expressed his general concurrence with the author. Dr. Odling pointed out that in certain names, such as "ferricyanide of iron," it was advantageous to use both English and Latin names. Dr. Voelcker thought that the employment of different names for the same substance familiarised chemists with different views of constitution. A communication from Mr. J. Hunter on the analyses of sea-water from different depths was read. The author gave the results of observations made during the recent scientific expedition of the *Porcupine*.

Zoological Society, November 25.—Mr. John Gould, F.R.S., V.P., in the chair.—Mr. Sclater made some remarks on the condition of various zoological gardens on the Continent recently visited by him, and on rare animals observed in those establishments. The secretary exhibited on behalf of Mr. John Brazier, C.M.Z.S., the eggs of a megapode (*Megapodius*) from Banks Island, New Hebrides, indicating the existence of a species of this genus in that group of islands. A letter was read from Mr. W. T. Fraser, C.M.Z.S., giving some confirmatory facts