The Nebula in the Pleiades. By Maxwell Hall, Esq.

It is now about three years since I called attention to this nebula in the pages of Nature. At that time it had not been seen through Lord Rosse's telescopes, and as it was very distinct in my own 4-inch Refractor aided by splendid skies, I sought for an explanation.

One was given by the Editor, who said that the light from Meropé would extinguish the nebula in large telescopes, if I understand him aright.

But as the ratio of the light of the star to that of the nebula remains the same whatever the aperture may be, this explanation did not seem very conclusive; and indeed the nebula has been seen repeatedly since that time at the Birr Castle Observatory.

Again, it has been seen through Mr. Newall's 26-inch Refractor; and his verbal description of the nebula corresponded so closely to what I have always seen in Jamaica, that my sketch made in March 1877, after about a year's attention to the nebula, may prove valuable.

When the annexed drawing of the Pleiades was made, the stars with Flamstead's numbers from 16 to 28 were taken from the British Association Catalogue and brought up to date; these stars formed the groundwork, and the chart was filled in from observation at the telescope by the eye alone, so that the drawing is a mere sketch of that group of stars. But the wreathing of the stars is well brought out, and great care was taken with the stars in the neighbourhood of the nebula. The limits of the nebula were obtained by moving the telescope rapidly in order to obtain contrast, and great pains were taken in the shading of the drawing of the nebula in order to show the contrast between light and darkness. A power of 100 was generally employed.

It was with great surprise that I saw very recently the drawing of the nebula in Dr. Engelmann's chart of the Pleiades (see p. 304, vol. i, Abhandlungen von F. W. Bessel, herausgegeben von R. Engelmann, Leipzig, 1875), where it is represented as a very small circular patch of light in no way connected with Meropé, and situated about 11' from that star along the axis of figure as represented in my drawing. It is perhaps as well to add that this nebula was discovered by Tempel in 1859, twenty years after the first series of observations made by Bessel.

Tempel also employed a 4-inch telescope, but he found it much smaller than my drawing; it appeared to him of an elliptical form, the greatest and least diameters being about 35' and 20'; while my estimated diameters are 45' and 30'.

For the evidence respecting the variability of the light of this nebula I must refer to an excellent summary given by Mr. Webb, in the Intellectual Observer, vol. iv., p. 449; where we read, "Söhnfeld at Mannheim doubts the fact of variation, and he thinks that this and other suspected nebulae, being very feeble, large, and diffused, are influenced in visibility by magnifying
power, varying transparency of the air, and practice of the eye, so that aperture is less concerned in their case than in that of minute stars. Auwers, of Göttingen, argues on the same side. It has often, this observer says, been remarked—Encke's comet being an instance of it—that large, ill-defined, faint objects are best seen with small instruments."

Again, in the third edition of Mr. Chambers' Descriptive Astronomy, the following remarks were taken from the Ast. Nach., vol. 86, No. 2045:—"Schiaparelli, at Milan, trying a new telescope on February 25, 1875, saw this nebula very clearly, and was much surprised at its size. He noted it to extend from the star Merope, beyond Electra and as far as Celæno."

That is to say, he saw it extending in a direction at right-angles to the axis of my figure, seen the year following his observation, though not drawn until later.

It is to be hoped that further observations will be made of this most interesting nebula by possessors of telescopes with both large and small apertures; indeed, there seems to be quite a new field of research opened out for smaller telescopes. At the present moment I am inclined to think that the state of the air has great effect upon the visibility of this nebula and similar objects; for, with my four-inch Refractor on the mountains of Jamaica, I have seen the third or gauze ring of Saturn as clearly and as fully extended as in the drawings taken with the largest and most perfect instruments.

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**Discovery of a Gaseous Nebula in Cygnus.**

By the Rev. T. W. Webb, F.R.A.S.

On the night of November 14, as I was sweeping in Cygnus with a power of probably about 50 on my 9 3/8-inch silvered mirror, by With, I came across an object resembling a bluish 9-magnitude star, which, however, on closer examination, did not entirely resemble other stars of that size, and which was soon proved by change of eye-piece to be of an entirely different nature. Under powers of 212, 375, and 450 it appeared as a nebulous disk, surrounded perhaps by a feeble glow, and about 4" in diameter. It was readily identified by Lord Lindsay and Mr. Knott as No. 4004 in Argelander, +41°, with a place for 1880 of R.A. 21° 2m 31s, D.N. 41° 45° 3; and both observers recognised its monochromatic light.

Through the kindness of Dr. Copeland, by whom it has been carefully examined, under peculiarly favourable circumstances, at Lord Lindsay’s Observatory, I am enabled to add the following interesting particulars.

It is not round, and has a sharp nucleus near the n.p. edge, with a faint effusion of light in the opposite direction. The value of three very measurable bright lines was given respectively in two