

Photograph of the Nebula M. 77 Ceti. By Isaac Roberts,
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The photograph was taken on 1892 November 26. Exposure 90 minutes. R.A. $2^{\text{h}} 37^{\text{m}}$. Decl. $0^{\circ} 27'$ south.

The nebula is described by Sir John Herschel as very bright, pretty large, irregularly round, suddenly much brighter in the middle, with a nucleus partially resolved. A drawing of it is given in the *Phil. Trans.* for 1861, Pl. XXV., fig. 4.

Mr. Lassell, in the *Memoirs of the Royal Astronomical Society*, vol. xxxvi., Pl. I., fig. 2, p. 40, describes the nebula, and, by a drawing, shows it to be spiral, accompanied by a near nebulous star.

Lord Rosse, in the *Observations of Nebulae and Clusters of Stars*, p. 32, Pl. I., records twelve observations of the nebula, made between the years 1848 and 1874. The nebula is described as a spiral, with bright patches involved.

None of the drawings referred to do more than indicate some of the prominent features of the nebula, but the photograph reveals, in considerable detail, the structure and distribution of the nebulosity.

The nucleus is stellar, with projecting ansæ of dense nebulosity on the north following and south preceding sides; and surrounding this dense composite nucleus is a zone of faint nebulosity, bounded by a broad nebulous ring, which is studded with strong condensations resembling stars with irregular margins. Six or eight of the nebulous patches can, on the negative, be discerned; and if we wished to point out the formation of a stellar system, now in visible process of condensation from a nebula, this object would supply the evidence necessary in a very forcible manner to the eye.

The star to which Lassell referred is not shown to be nebulous, but is as sharply defined as any of the other stars on the plate.

An enlarged photograph from the negative is now presented, and also one shown projected on the screen.

Photograph of the Cluster M. 103 Cassiopeiæ.
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The photograph of the cluster M. 103 Cassiopeiæ, R.A. $1^{\text{h}} 26^{\text{m}}$, Decl. north $60^{\circ} 9'$, was taken on 1892 December 23, with an exposure of 60 minutes, and the enlargement of it now presented is to the scale of 24 seconds of arc to one millimetre.

The cluster is No. 341 in the *General Catalogue* and is described by Sir J. Herschel as "bright; round; rich; pretty large; stars 10 to 11th magnitude."