

sitions will materially facilitate the difficult calculation of its orbit. The indication of a new star which has subsequently been lost sight of, frequently affords us more assistance than, considering the slowness of its motion, we can hope to gain by the most careful measurements of its course through many successive years. Thus the star numbered 964 in the catalogue of Tobias Mayer has proved of great importance for the determination of Uranus, and the star numbered 26,266 in Lalande's catalogue* for that of Neptune. Uranus, before it was recognized as a planet, had, as is now well known, been observed twenty-one times; once, as already stated, by Tobias Mayer, seven times by Flamstead, once by Bradley, and twelve times by Le Monnier. It may be said that our increasing hope of future discoveries of planetary bodies rests partly on the perfection of our telescopes (Hebe, at the time of its discovery in July, 1847, was a star of the 8.9 magnitude, while in May, 1849, it was only of the eleventh magnitude), and partly, and perhaps more, on the completeness of our star catalogues, and on the exactness of our observers.

The first catalogue of the stars which appeared after the epoch when Morin and Gascoigne taught us to combine telescopes with measuring instruments, was that of the southern stars compiled by Halley. It was the result of a short residence at St. Helena in the years 1677 and 1678, but, singularly enough, does not contain any determinations below the sixth magnitude.† Flamstead had, indeed, begun his great Star Atlas at an earlier period; but the work of this celebrated observer did not appear till 1712. It was succeeded by Bradley's observations (from 1750 to 1762), which led to the discovery of aberration and nutation, and have been rendered celebrated by the *Fundamenta Astronomiæ* of our countryman Bessel (1818),‡ and by the stellar catalogues of

* Baily, *Cat. of those stars in the "Histoire Céleste" of Jerome de Lalande, for which tables of reduction to the epoch 1800 have been published by Prof. Schumacher, 1847, p. 1195.* On what we owe to the perfection of star catalogues, see the remarks of Sir John Herschel in *Cat. of the British Assoc.*, 1845, p. 4, § 10. Compare also on stars that have disappeared, Schumacher, *Astr. Nachr.*, No. 624, and Bode, *Jahrb. für 1817*, s. 249.

† *Memoirs of the Royal Astron. Soc.*, vol. xiii., 1843, p. 33 and 168.

‡ Bessel, *Fundamenta Astronomiæ pro anno 1755, deducta ex observationibus viri incomparabilis James Bradley in Specula astronomica Grenovicensi*, 1818. Compare also Bessel, *Tabulæ Regiomontanæ reductionum observationum astronomicarum ab anno 1750 usque ad annum 1850 computatæ* (1830).