

bricius as suddenly shining in the neck of Cetus in the year 1596, and as disappearing in October of the same year, likewise advances this position as a proof to the contrary. (Kepler, *De Stella Nova Serp.*, p. 112.) Is it allowable to infer, from the frequent lighting up of such stars in the same constellations, that in certain regions of space—those, namely, where Cassiopeia and Scorpio are to be seen—the conditions of their illuminations are favored by certain local relations? Do such stars as are peculiarly fitted for the explosive temporary processes of light especially lie in those directions?

The stars whose luminosity was of the shortest duration were those of 389, 827, and 1012. In the first of the above-named years, the luminosity continued only for three weeks; in the second, four months; in the third, three. On the other hand, Tycho Brahe's star in Cassiopeia continued to shine for seventeen months; while Kepler's star in Cygnus (1600) was visible fully twenty-one years before it totally disappeared. It was again seen in 1655, and still of the third magnitude, as at its first appearance, and afterward dwindled down to the sixth magnitude, without, however (according to Argelander's observations), being entitled to rank among periodically variable stars.

STARS THAT HAVE DISAPPEARED.—The observation and enumeration of stars that have disappeared is of importance for discovering the great number of small planets which probably belong to our solar system. Notwithstanding, however, the great accuracy of the catalogued positions of telescopic fixed stars and of modern star-maps, the certainty of conviction that a star in the heavens has actually disappeared since a certain epoch can only be arrived at with great caution. Errors of actual observation, of reduction, and of the press,*

* On instances of stars which have not disappeared, see Argelander, in Schumacher's *Astronom. Nachr.*, No. 624, s. 371. To adduce an example from antiquity, I may point to the fact that the carelessness with which Aratus compiled his poetical catalogue of the stars has led to the often-renewed question whether Vega Lyrae is a new star, or one which varies in long periods. For instance, Aratus asserts that the constellation of Lyra consists wholly of small stars. It is singular that Hipparchus, in his Commentary, does not notice this mistake, especially as he censures Aratus for his statements as to the relative intensity of light in the stars of Cassiopeia and Ophiuchus. All this, however, is only accidental and not demonstrative; for when Aratus also ascribes to Cygnus none but stars "of moderate brilliancy," Hipparchus expressly refutes this error, and adds the remark that the bright star in the Swan