

ted the American observations of 1833 to a very accurate investigation, remarks that the fixed radiation from the constellation Leo is only observed properly after midnight, in the last three or four hours before daybreak ; that of eighteen observers between the town of Mexico and Lake Huron, only ten perceived the same general point of departure of the meteors,\* which Denison Olmsted, Professor of Mathematics in New Haven (Connecticut), indicated.

The excellent work of Edward Heis, of Aix-la-Chapelle, which presents in a condensed form the very accurate observations of falling stars made by himself during ten years, contains results as to the *phenomena of divergence*, which are so much the more important as the observer has discussed them with mathematical strictness. According to him,† “ the falling stars of the *November period* present the peculiarity that their paths are more dispersed than those of the *August period*. In each of the two periods there were simultaneously several points of departure by no means always proceeding *from the same constellation*, as there was too great a tendency to assume since the year 1833.” Besides the *principal point of departure of Algol in Perseus*, Heis finds in the *August periods* of the years 1839, 1841, 1842, 1843, 1844, 1847, and 1848, two others in Draco and the *North Pole*.‡ “ In order to deduce accurate results as to the points of departure of the paths of the falling stars in the *November periods* for the years 1839, 1841, 1846, and 1847, for the four points (Perseus, Leo, Cassiopeia, and the Dragon’s Head), the mean path belonging to each was drawn upon a thirty-inch celestial globe, and in every case the position of the point ascertained from which the greatest number of paths proceeded. The investigation showed that of 407 of the falling stars indicated *according to their paths*, 171 came from Perseus, near the star  $\eta$  in Medusa’s Head, 83 from Leo, 35 from Cassiopeia, near the changeable star  $\alpha$ ,

\* Coulvier-Gravier and Saigey, *Recherches sur les Etoiles Filantes*, 1847, p. 69-86.

† “ The *periodical* falling stars, and the results of the phenomena deduced from the observations carried on during the last ten years at Aix-la-Chapelle, by Edward Heis,” 1849, p. 7 and 26-30.

‡ The statement of the *North Pole* being a center of radiation in the August period is founded only upon the observations of the one year 1839 (10th of August). A traveler in the East, Dr. Asahel Grant, reports from Mardin, in Mesopotamia, “ that about midnight the sky was, as it were, furrowed with falling stars, all of which proceeded from the *region of the polar star*.” (Heis, p. 28, from a letter of Herrick’s to Quetelet’s and Grant’s Diary.)