

a comparison of the facts I had adduced, showed that the phenomenon had been simultaneously seen in the New Continent, from the equator to New Herrnhut in Greenland ($64^{\circ} 14'$ north latitude), and between 46° and 82° longitude. The identity of the epochs was recognized with astonishment. The stream, which had been seen from Jamaica to Boston ($40^{\circ} 21'$ north latitude) to traverse the whole vault of heaven on the 12th and 13th of November, 1833, was again observed in the United States in 1834, on the night between the 13th and 14th of November, although on this latter occasion it showed itself with somewhat less intensity. In Europe the periodicity of the phenomenon has since been manifested with great regularity.

Another and a like regularly recurring phenomenon is that noticed in the month of August, the meteoric stream of St. Lawrence, appearing between the 9th and 14th of August. Muschenbroek,* as early as in the middle of the last century, drew attention to the frequency of meteors in the month of August; but their certain periodic return about the time of St. Lawrence's day was first shown by Quetelet, Olbers, and Benzenberg. We shall, no doubt, in time, discover other periodically appearing streams,† probably about the 22d to the

ecliptic at about the point which our Earth annually occupies between the 11th and 13th of November. It is a new planetary world beginning to be revealed to us." (*Annuaire*, 1836, p. 296.)

* Compare Muschenbroek, *Introd. ad Phil. Nat.*, 1762, t. ii., p. 1061; Howard, *On the Climate of London*, vol. ii., p. 23, observations of the year 1806; seven years, therefore, after the earliest observations of Brandes (Benzenberg, *über Sternschnuppen*, s. 240-244); the August observations of Thomas Forster, in Quetelet, *op. cit.*, p. 438-453; those of Adolph Erman, Boguslawski, and Kreil, in Schum., *Jahrb.*, 1838, s. 317-330. Regarding the point of origin in Perseus, on the 10th of August, 1839, see the accurate measurements of Bessel and Erman (Schum., *Astr. Nachr.*, No. 385 und 428); but on the 10th of August, 1837, the path does not appear to have been retrograde; see Arago, in *Comptes Rendus*, 1837, t. ii., p. 183.

† On the 25th of April, 1095, "innumerable eyes in France saw stars falling from heaven as thickly as hail" (*ut grando, nisi lucerent, pro densitate putaretur*; Baldr., p. 88), and this occurrence was regarded by the Council of Clermont as indicative of the great movement in Christendom. (Wilken, *Gesch. der Kreuzzüge*, bd. i., s. 75.) On the 25th of April, 1800, a great fall of stars was observed in Virginia and Massachusetts; it was "a fire of rockets that lasted two hours." Arago was the first to call attention to this "trainée d'astéroïdes," as a recurring phenomenon. (*Annuaire*, 1836, p. 297.) The falls of aërolites in the beginning of the month of December are also deserving of notice. In reference to their periodic recurrence as a meteoric stream, we may mention the early observation of Brandes on the night of the 6th and 7th of December, 1798 (when he counted 2000 falling stars), and very