

sands. The latter, which are compared by Arabian authors to swarms of locusts, are periodic in their occurrence, and move in streams, generally in a parallel direction. Among periodic falls, the most celebrated are that known as the November phenomenon, occurring from about the 12th to the 14th of November, and that of the festival of St. Lawrence (the 10th of August), whose "fiery tears" were noticed in former times in a church calendar of England, no less than in old traditionary legends, as a meteorological event of constant recurrence.* Notwithstanding the great quantity of shooting stars and fire-balls of the most various dimensions, which, according to Klöden, were seen to fall at Potsdam on the night between the 12th and 13th of November, 1822, and on the same night of the year in 1832 throughout the whole of Europe, from Portsmouth to Orenburg on the Ural River, and even in the southern hemisphere, as in the Isle of France, no attention was directed to the *periodicity* of the phenomenon, and no idea seems to have been entertained of the connection existing between the fall of shooting stars and the recurrence of certain days, until the prodigious swarm of shooting stars which occurred in North America between the 12th and 13th of November, 1833, and was observed by Olmsted and Palmer. The stars fell, on this occasion, like flakes of snow, and it was calculated that at least 240,000 had fallen during a period of nine hours. Palmer, of New Haven, Connecticut, was led, in consequence of this splendid phenomenon, to the recollection of the fall of meteoric stones in 1799, first described by Ellicot and myself,† and which, by

* Dr. Thomas Forster (*The Pocket Encyclopedia of Natural Phenomena*, 1827, p. 17) states that a manuscript is preserved in the library of Christ's College, Cambridge,^a written in the tenth century by a monk, and entitled *Ephemerides Rerum Naturalium*, in which the natural phenomena for each day of the year are inscribed, as, for instance, the first flowering of plants, the arrival of birds, &c.; the 10th of August is distinguished by the word "meteorodes." It was this indication, and the tradition of the fiery tears of St. Lawrence, that chiefly induced Dr. Forster to undertake his extremely zealous investigation of the August phenomena. (Quetelet, *Correspond. Mathém.*, Série III., t. i., 1837, p. 433.)

† Humb., *Rel. Hist.*, t. i., p. 519-527. Ellicot, in the *Transactions of the American Society*, 1804, vol. vi., p. 29. Arago makes the following observations in reference to the November phenomena: "We thus become more and more confirmed in the belief that there exists a zone composed of millions of small bodies, whose orbits cut the plane of the

^a [No such manuscript is at present known to exist in the library of that college. For this information I am indebted to the inquiries of Mr. Cory, of Pembroke College, the learned editor of *Hieroglyphics of Horapollo Nilous*, Greek and English, 1840.]—*Tr.*