

of divergence, *i. e.*, together with the circumstance that periodic shooting stars, independently of the rotation of the Earth, proceed during several hours from the same star, even when this star is not that toward which the Earth is moving at the same time. According to the existing measurements, fire-balls appear to move slower than shooting stars; but it nevertheless remains striking, that when the former meteors fall, they sink such a little way into the ground. The mass at Ensisheim, in Alsace, weighing 276 pounds (November 7th, 1492), penetrated only 3 feet, and the aërolite of Braunau (July 14th, 1847) to the same depth. I know of only two meteoric stones which have plowed up the loose earth for 6 and 18 feet: these are the aërolites of Castrovillari, in the Abruzzi (February 9th, 1583), and that of Hradschina, in the Agram district (May 6th, 1751).

Whether any thing has ever fallen from the shooting stars to the Earth, has been much discussed in opposite senses. The straw roofs of the parish Belmont (Département de l'Ain, Arrondissement Belley), which were set on fire by a meteor in the night of November 13th, 1835, just at the epoch of the known November phenomenon, received the fire, as it appears, not from a falling shooting star, but from a bursting fire-ball, which problematical aërolite is said to have fallen, according to the statements of Millet d'Aubenton. A similar conflagration, caused by a fire-ball, occurred on the 22d of March, 1846, about three o'clock in the afternoon, in the commune of St. Paul, near Bagnère de Luchon. Only the fall of stones in Angers (on the 9th of July, 1822) was ascribed to a beautiful falling star seen near Poitiers. This phenomenon, not sufficiently described, deserves great attention. The falling stars resembled entirely the so-called *Roman* candles used in fire-works. It left behind it a straight streak, very narrow above, and very broad below, which lasted for ten or twelve minutes with great brilliancy. Seventeen miles northward of Poitiers an aërolite fell with a great detonation.

Does all that the shooting stars contain burn in the outermost strata of the atmosphere, whose refracting power causes the phenomenon of twilight? The above-mentioned various colors, during the process of combustion, admit of the inference of a chemical difference in the substances. In addition to this, the forms of these fiery meteors are exceedingly variable; some form merely *phosphorescent lines* of such fineness and number, that Forster, in the winter of 1832, saw