of fire-balls and shooting stars, which has frequently been observed to be opposite to that of the Earth, may be considered as conclusive arguments against the hypothesis that aërolites derive their origin from the so-called active *lunar volcanoes*. Numerical views regarding a greater or lesser volcanic force on a small cosmical body, not surrounded by any atmosphere, must, from their nature, be wholly arbitrary. We may imagine the reaction of the interior of a planet on its crust ten or even a hundred times greater than that of our present terrestrial volcanoes; the direction of masses projected from a satellite revolving from west to east might appear retrogressive, owing to the Earth in its orbit subsequently reaching that point of space at which these bodies fall. If we examine the whole sphere of relations which I have touched upon in this work, in order to escape the charge of having made unproved assertions, we shall find that the hypothesis of the selenic origin of meteoric stones* depends upon a number of conditions

* Chladni states that an Italian physicist, Paolo Maria Terzago, on the occasion of the fall of an aërolite at Milan in 1660, by which a Franciscan monk was killed, was the first who surmised that aërolites were of selenic origin. He says, in a memoir entitled *Musæum Septalianum, Manfredi Septalæ, Patricii Mediolanensis, industrioso labore constructum* (Tortona, 1664, p. 44), "*Labant philosophorum mentes sub horum lapidum ponderibus; ni dicire velimus, lunam terram alteram, sine mundum esse, ex cujus montibus divisa frustra in inferiorem nostrum hunc orbem delabantur.*" Without any previous knowledge of this conjecture, Olbers was led, in the year 1795 (after the celebrated fall at Siena on the 16th of June, 1794), into an investigation of the amount of the initial tangential force that would be requisite to bring to the Earth masses projected from the Moon. This ballistic problem occupied, during ten or twelve years, the attention of the geometricians Laplace, Biot, Brandes, and Poisson. The opinion which was then so prevalent, but which has since been abandoned, of the existence of active volcanoes in the Moon, where air and water are absent, led to a confusion in the minds of the generality of persons between mathematical possibilities and physical probabilities. Olbers, Brandes, and Chladni thought "that the velocity of 16 to 32 miles, with which fire-balls and shooting stars entered our atmosphere," furnished a refutation to the view of their selenic origin. According to Olbers, it would require to reach the Earth, setting aside the resistance of the air, an initial velocity of 8292 feet in the second; according to Laplace, 7862; to Biot, 8282; and to Poisson, 7595. Laplace states that this velocity is only five or six times as great as that of a cannon ball; but Olbers has shown "that, with such an initial velocity as 7500 or 8000 feet in a second, meteoric stones would arrive at the surface of our earth with a velocity of only 35,000 feet (or 1·53 German geographical mile). But the measured velocity of meteoric stones averages five such miles, or upward of 114,000 feet to a second; and, consequently, the original velocity of projection from the Moon must be almost 110,000 feet, and therefore fourteen times greater than Laplace asserted." (Olbers, in Schum., *Jahrb.*, 1837, p. 52–58; and in