120) generally estimated at 16 miles (over 97,388 feet), must be greatly contracted. Some, according to measurement, descend very nearly to the level of the summit of Chimborazo and Aconcagua, to the distance of four geographical miles above the level of the sea. Heis remarked, on the contrary, a falling star seen simultaneously at Berlin and Breslau on the 10th of July, 1837, had, according to accurate calculation, a height of 248 miles when its light first became visible, and a height of 168 on its disappearance; others disappeared during the same night at a height of 56 miles. From the older labors of Brandes (1823), it follows that of 100 well-defined shooting stars seen from two points of observation, 4 had an elevation of only 4 to 12 miles; 15 between 12 and 24 m.; 22 from 24 to 40 m.; 35 (nearly one third) from 40 to 60 m.; 13 from 40 to 80 m.; and only 11 (scarcely one tenth) above 80 m., their heights being between 180 and 240 miles. From 4000 observations collected during nine years, it has been inferred, with regard to the *color* of the shooting stars, that two thirds are white, one seventh yellow, one seventeenth yellowish red, and only one thirty-seventh green."

Olbers reports, that during the fall of meteors in the night of the 12th and 13th of November, in the year 1838, a beautiful northern light was visible at Bremen, which colored large parts of the sky with an intense blood-red light. The shooting stars darting across this region maintained their white color unaltered, whence it may be inferred that the northern light was further removed from the surface of the Earth than the shooting stars were at that point where they became invisible. (Schum., *Astr. Nachr.*, No. 372, p. 78.) The relative velocity of shooting stars has hitherto been estimated at from 18 to 36 geographical miles a second, while the Earth has only a translatory velocity of 16·4 miles. (*Cosmos*, vol. i., p. 120, note *.) Corresponding observations of Julius Schmidt at Bonn, and Heis at Aix-la-Chapelle (1849), gave as the actual minimum for a shooting star, which stood 48 miles vertically above St. Goar, and shot over the Lake of Laach, only 14 miles. According to other comparisons of the same observer, and of Houzeau in Mons, the velocity of four shooting stars was found to be between 46 and 95 miles in the second, consequently two to five times as great as the planetary velocity of the Earth. The cosmical origin is indeed most strongly proved by this result, together with the constancy of the simple or multiple points