

*remain invisible*, indicates the existence of many thousands. We except the aërolites or meteoric asteroids, as their nature is still enveloped in great obscurity. Among the comets, those must be distinguished whose orbits have been calculated by astronomers, and such of which there are only incomplete observations, or mere indications recorded. As, according to Galle's last accurate enumeration, 178 had been calculated up to the year 1847, so it may be admissible to adopt as the total number, with those which have been merely indicated, the assumption of six or seven hundred observed comets. When the Comet of 1682, predicted by Halley, appeared again in 1759, it was considered very remarkable that three comets should be visible in the same year. At the present time, the investigation of the heavens is carried on simultaneously at several parts of the globe, and with such energy, that in each of the years 1819, 1825, and 1840, four were discovered and calculated; in 1826, five; and in 1846, even eight.

Of comets visible with the naked eye, more have been observed recently than during the latter part of the previous century; but among them, those which have a great brilliancy in the head and tail still remain, on account of their unfrequency, remarkable phenomena. It will not be without interest to enumerate how many comets, visible in Europe to the naked eye, have appeared during the last centuries.\* The epoch in which they were most numerous was the sixteenth century, during which twenty-three such comets were seen. The seventeenth numbered twelve, and of these only two during its first half. In the eighteenth century only eight appeared, but nine during the first fifty years of the nineteenth century. Among these, the most beautiful were those of 1807, 1811, 1819, 1835, and 1843. In earlier ages, thirty or forty years have frequently passed without such a spectacle presenting itself in a single instance. In the years, however, during which comets seldom appear, there may be a number of large comets whose perihelia are situated beyond the orbits of Jupiter and Saturn. Of the telescopic comets, there are at the present time, upon an average, at least two or three discovered annually. In three successive months (1840) Galle discovered three new comets; from 1764 to 1798, Messier discovered twelve; from 1801 to 1827, Pons discovered twenty-seven. Thus Kepler's expression as to the

\* In the seven half centuries from 1500 to 1850, altogether 52 comets have appeared which were *visible to the naked eye*; in separate succes-