

concealed from our observation, and must always remain so, unless new and unexpected disturbing causes come into play. These cosmical relations involuntarily remind us of nearly similar conditions in the intellectual world, where, in the domain of deep research into the mysteries and the primeval creative forces of nature, there are regions similarly turned away from us, and apparently unattainable, of which only a narrow margin has revealed itself, for thousands of years, to the human mind, appearing, from time to time, either glimmering in true or delusive light. We have hitherto considered the primary planets, their satellites, and the concentric rings which belong to one, at least, of the outermost planets, as products of tangential force, and as closely connected together by mutual attraction; it therefore now only remains for us to speak of the unnumbered host of *comets* which constitute a portion of the cosmical bodies revolving in independent orbits round the Sun. If we assume an equable distribution of their orbits, and the limits of their perihelia, or greatest proximities to the Sun, and the possibility of their remaining invisible to the inhabitants of the Earth, and base our estimates on the rules of the calculus of probabilities, we shall obtain as the result an amount of myriads perfectly astonishing. Kepler, with his usual animation of expression, said that there were more comets in the regions of space than fishes in the depths of the ocean. As yet, however, there are scarcely one hundred and fifty whose paths have been calculated, if we may assume at six or seven hundred the number of comets whose appearance and passage through known constellations have been ascertained by more or less precise observations. While the so-called classical nations of the West, the Greeks and Romans, although they may occasionally have indicated the position in which a comet first appeared, never afford any information regarding its apparent path, the copious literature of the Chinese (who observed nature carefully, and recorded with accuracy what they saw) contains circumstantial notices of the constellations through which each comet was observed to pass. These notices go back to more than five hundred years before the Christian era, and many of them are still found to be of value in astronomical observations.*

* The first comets of whose orbits we have any knowledge, and which were calculated from Chinese observations, are those of 240 (under Gordian III.), 539 (under Justinian), 565, 568, 574, 837, 1337, and 1385. See John Russell Hind, in Schum., *Astron. Nachr.*, 1843, No. 498. While the comet of 837 (which, according to Du Séjour, continued dur