nearly as $88\frac{2}{3}$ to $120\frac{1}{7\frac{1}{2}}$, or as 67 to $90\frac{11}{16}$; it is seldom that pure conjectures can draw such exact relations. It is true, that by following this relation between the velocity and density of planets, the density of the earth ought to be only as $206\frac{7}{18}$, and not 400; from hence it may be conceived, that our globe was formerly less dense than it is at present. With respect to the other planets, Mars, Venus, and Mercury, as their densities are known only by conjecture, we cannot be certain whether this circumstance will destroy or confirm our hypothesis. The opinion of Newton is, that density is so much the greater, as the heat to which the planet is exposed is the stronger; and it is upon this principle, that we have just said that Mars is one time less dense than the Earth, Venus one time more dense, Mercury seven times more dense, and the comet in 1680, 28,000 times more dense than the earth: but this proportion between the density of the planets and the heat which they sustain, seems not well founded, when we consider Saturn and Jupiter, which are the principal objects; for according to this relation between the density and heat, the density of Saturn would be about $4\frac{7}{18}$, and that of Jupiter as $14\frac{17}{22}$, instead of 67