being nearer the sun, and receiving a heat, whose relation to that which Jupiter receives is from 400 to $14\frac{17}{22}$, the quantity of condensation it would have experienced on the orbit of Jupiter by the proportion of 400 to $14\frac{17}{22}$, which gives nearly $234\frac{1}{8}$ for the quantity which the earth would be condensed. Its density was $206\frac{7}{8}$; by adding the quantity of its acquired condensation, we find $400\frac{7}{8}$ for its actual density, which nearly approaches the real density 400, determined to be so by the parallax of the moon. As to other planets, I do not here pretend to give exact proportions, but only approximations, to point out that their densities have a strong relation to their velocity in their respective orbits.

The comet, therefore, by its oblique fall upon the surface of the sun, having driven from it a quantity of matter equal to the 650th part of its whole mass; this matter, which must be considered in a liquid state, will at first have formed a torrent, the grosser and less dense parts of which will have been driven the furthest, and the smaller and more dense, having received only the like impulsion, will remain nearer its source; the force of the sun's attraction would inevitably act upon all the