and $94\frac{1}{2}$, a difference too great to be admitted, and must destroy the principles upon which it was founded. Thus, notwithstanding the confidence which the conjectures of Newton merit, I cannot but think that the density of the planets has more relation with their velocity than with the degree of heat to which they are exposed. This is only a final cause, and the other a physical relation, the preciseness of which is remarkable in Jupiter and Saturn; it is nevertheless true, that the density of the earth, instead of being $206\frac{7}{8}$, is found to be 400, and that consequently the terrestrial globe must be condensed in this ratio of $206\frac{7}{8}$ to 400.

But have not the condensations of the planets some relation with the quantity of the heat of the sun which they sustain? If so, Saturn, which is the most distant from that luminary, will have suffered little or no condensation; and Jupiter will be condensed from $90\frac{11}{16}$ to $94\frac{1}{2}$. Now the heat of the sun in Jupiter being to that of the sun upon the earth as $14\frac{1}{2}\frac{1}{2}$ are to 400, the condensations ought to be in the same proportion. For instance, if Jupiter be condensed, as $90\frac{11}{16}$ to $94\frac{1}{2}$, and the earth had been placed in his orbit, it would have been condensed from $206\frac{7}{8}$ to $215\,^{990}$, but the earth being