Newton had some idea that chemical affinities (which are nothing more in fact than these particular attractions which we have mentioned) were produced by the same kind of laws as those of gravitation; but he does not appear to have perceived that all those particular laws were merely simple modifications of the general one, and that their apparent difference arose solely from the circumstance of the figure of the atoms, which attract each other, having, when at small distances, a greater influence upon the force of this law than the mass of matter.

It is, notwithstanding, upon this theory that the perfect knowledge of brute matter depends. The basis of all matter is the same, and its form throughout would be perfectly similar, if the figures of its constituent particles were not different; and thus it is that one homogeneous substance can differ from another only in proportion to the difference of their original particles. A body composed of spherical particles ought to be one half specifically lighter than that whose particles are cubical, because as the first only touch each other by their points, they leave intermediate spaces equal to what they occupy, whereas the cubical particles join without leaving the smallest interval, and must consequently form a matter half as heavy again.