

will be united in the space of one inch, that is; it will be 2304 times denser than it was, if all the incident matter arrived to this focus without any loss, and when even the loss is two thirds or three fourths, the mass of fire concentrated in the focus of this mirror, will always be six or seven hundred times denser than on the surface. In this, as in all other cases, the mass goes by the contraction of the volume; and the fire which we thus augment the density of, has all the properties of a mass of matter; for, independently of the action of heat, by which it penetrates bodies, it impels and displaces them as a solid moving body which strikes another would do.

Each of these modes of administering fire, and increasing either the velocity, volume, or mass, often produce very different effects on the same substances; insomuch, that no reliance is to be placed on any thing that cannot be worked at the same time, or successively, by all three. In the like manner, as I divide into three general proceedings the administration of this element, I divide every matter that can be submitted to its action into three classes. Passing over for the present those which are purely combustible, and which immediately proceed from animals and vegetables; we proceed