

Combustion supposes something more than volatilisation; it is not sufficient that the parts of matter be sufficiently separated to be carried off by those of heat; they must also be of an analogous nature to fire; without that, mercury, being the most fluid next to air, would also be the most combustible, whereas experience demonstrates, that though very volatile it is not combustible. Matter is, in general, composed of four principal substances, called *elements*, that is, earth, water, air, and fire. Those in which earth and water predominate will be fixed, and will only become volatile by the action of heat; and those which contain most air and fire will be the only real combustibles. The great difficulty here is clearly to conceive how air and fire, both so volatile, can fix and become constituent parts of all bodies.

Fire, by absorbing air, destroys the spring. Now there are but two methods of destroying a spring, either by compressing it till it breaks, or extending it till it loses its effect. It is plain that fire cannot destroy air by compression, since the least degree of heat rarefies it; on the contrary, by a very strong heat the rarefaction of the air will be so great that it will occupy a space thirteen times more extended than that of its general volume; and by