

we have hitherto been accustomed to apply the epithet elastic, such as air, gases, and vapors. In these, the repulsive force of the particles on which their elasticity depends is considered as extending only to very small distances, so as to affect only those in the immediate vicinity of each other, while their attractive power, by which they obey the general gravitation of all matter, extends to any distance. In electricity, on the other hand, the very reverse must be admitted. The force by which its particles repel each other extends to great distances, while its force of adhesion to ponderable matter must be regarded as limited in its extent to such minute intervals as escape observation.

(370.) The conception of a single fluid of this kind, which, when accumulated in excess in bodies, tends constantly to escape, and seek a restoration of equilibrium by communicating itself to any others where there may be a deficiency, is that which occurs most naturally to the mind, and was accordingly maintained by Franklin, to whom the science of electricity is under great obligations for those decisive experiments which informed us respecting the true nature of lightning. The same theory was afterwards advocated by Æpinus, who first showed how the laws of equilibrium of such a fluid might be reduced to strict mathematical investigation. But there are phenomena accompanying its transfer from body to body, and the state of equilibrium it affects under various circumstances, which appear to require the admission of *two distinct fluids* antagonist to each other, each attracting the other, and repelling itself; but each, alike, susceptible of adhesion to material substances, and of transfer more or less rapid from particle to particle of them. These fluids in the natural undisturbed state are conceived to exist in a state of combination and mutual saturation; but this combination may be broken, and either of them separately accumulated in a body to any amount without the other, provided its escape be properly obstructed by surrounding it with non-conductors. When so accumulated, its repulsion for its own kind and attraction of the opposite species in neighboring bodies tends to disturb the natural equilibrium of the two fluids present in them,