

bination of two aeriform fluids, which are very different from each other in character, but intimately blended together in the proportion of four to one. Of these two fluids, that which is in the smaller proportion is not only capable of supporting life, when respired or breathed alone; but is capable of supporting it for a much longer period than an equal volume of atmospherical air would have supported it: and if, instead of being employed for the process of respiration, it be made the medium of supporting combustion, the consequent phenomena are still more remarkable; for the combustible body not only burns for a longer time than it would have done in the same quantity of atmospherical air, but it burns with an intensity much more vivid; the light of the flame being in many instances too powerful to be easily borne by the eye. On the other hand, that constituent part of atmospherical air, which is in the greater proportion, not only will not support either life or flame, even for a short time, but extinguishes both, almost in an instant.

By numerous experiments, which it is at present unnecessary to describe, it has been ascertained, that many of the metals are capable of attracting and combining with this respirable part of the air: during which process the metallic body assumes an earthy character, and becomes increased in weight; while the weight of