

the air, in which the experiment has been conducted, becomes diminished exactly to the amount in which that of the metal has been increased: and, at the same time, the residuary portion of the air which has been employed in the experiment equals only about four fifths of the original volume; and is now incapable of supporting either life or flame. But, by processes well known to chemists, the metallic substance may be made to yield a quantity of air equalling that which has been lost during the experiment, the metal at the same time returning to its original state and weight; while the air, thus separated, if added to the residual portion, not only restores the volume and weight of the original quantity; but also its power of supporting life and flame.

If, instead of a metal, certain inflammable substances be employed, similar changes are effected on the air; and the inflammable substance, together with an increase of weight and other alterations, acquires acid properties; and hence that respirable portion of the air has, from a Greek derivation, been called *oxygen*; as being the effective cause of the acidification of those inflammable bodies. It has moreover been ascertained that, during combustion, a piece of pure charcoal weighing twenty-eight grains combines with as much oxygen gas as would weigh seventy-two grains: and, as the volume