

of oxygen from any cause, is not reduced in bulk. This is practically worthy of notice. In this gas the elements are held together by a very feeble affinity. Its oxygen is, therefore, very easily separated from it. On this principle it supports combustion almost as readily and well as free oxygen. The oxygen is thus furnished in its nascent state, and is as active as ozone. It is quite probable that it supports respiration on the same principle. There is a popular error among writers that it may be well to notice. It is generally stated about thus: "Sir Humphrey Davy discovered \* \* \* that it supports respiration for a few minutes. He breathed 9 quarts of it, contained in a silk bag, for 3 minutes, and 12 quarts for rather more than 4; but no quantity could enable him to bear the privation of atmospheric air for a longer period." Now does any one suppose that 12 quarts of *atmospheric air* used in the same way would support respiration more than 4 minutes? If he does, let him try it; and if it fails him, let him be consistent by writing and printing that "no quantity" of atmospheric air will sustain respiration for a longer period. The ox bladder and silk bag experiments of the older chemists amount to little in determining the support to respiration derivable from this gas. They were mainly ascertaining how long a man can breathe his own breath.

It must not be inferred that this protoxyd is a substitute for atmospheric air, far less that it is a better supporter of respiration, as I have often heard claimed by its over-zealous friends. But that it is capable of supporting respiration far beyond what is indicated by the experiments of Davy is now clearly demonstrated by experiment. I have known it to be breathed for an hour, with less than twenty inspirations of atmospheric air during the time. I have many times seen it breathed twenty minutes, without the admission of any air, the quiet state of the patients, their natural complexions, and their after statements proving that they suffered no inconvenience at the time; and, when the gas is pure and properly administered, even for these long periods, the condition of the patient is as unlike asphyxia as can be well imagined. These experiments were not made with regular patients, but were legitimately conducted, from a feeling that we must know far more about this agent, or abandon its use.

This gas is usually obtained by decomposing nitrate of ammonia by heat. It may be preserved over water, as there will be but little waste after this liquid is once saturated. Several precautions are to