

the heart; and from the left side of the heart is propelled through the whole arteries of the body. In the minute terminations of the arteries, the blood again loses its florid hue, and, reassuming its dark red colour, is returned through the veins, to the right side of the heart; to be exposed as before to the influence of the atmospheric air, and to undergo the same succession of changes.

On examining the respired air, a remarkable alteration of its properties is found to have taken place; a portion of its oxygen has disappeared, and a similar bulk of carbonic acid gas, has been substituted. With respect to the origin of this carbonic acid gas, there have been various opinions. Formerly, the greater number of physiologists maintained, that carbon, in some form, was excreted by the lungs; and that this excreted carbon, uniting with the oxygen of the inspired air, was converted into carbonic acid gas. No one imagined that oxygen gas could be passing inwards through the membrane of the lungs; while carbonic acid gas was, at the same time, passing outwards, through the same membrane. Accurate observations have, however, demonstrated, that such a simultaneous passage of gases really takes place through the membrane of the lungs: and the observations are not confined to the two gaseous bodies in the lungs; but are applicable to all gases what-