The opinion formerly held, was, that the arterial colour arose from the absorption of oxygen; and the venous colour from the presence of carbon. But recent observations seem to show that the change in the colour of the blood during its circulation, if not entirely independent of oxygen, is much influenced by the saline matters; particularly by the common salt, which the blood contains: and that the dark colour of venous blood, is principally owing to the presence of carbonic acid gas.

Secondly. What is the source, of the carbonic acid in venous blood, and of the aqueous vapour which is expelled from the lungs? These questions cannot be answered with certainty. But some observations lately made, have induced us to believe, that the conversion of albuminous matters into gelatine, is one great source of the carbonic acid in venous blood. Gelatine, as before observed, contains three or four per cent. less of carbon than albumen contains. Now gelatine enters into the structure of every part of the animal frame, and especially of the skin: the skin indeed consists of little else besides gelatine: it is most probable, therefore, that a large part of the carbonic acid of venous blood is formed in the skin, and in the analogous textures. Indeed, we know that the skin of many animals gives off carbonic acid, and absorbs oxygen; in other words, performs all the offices of the lungs: