aquatic respiration the air contained in water is made to act on the blood circulating in vessels which ramify on the external surface of the filaments of the gills; while in atmospheric respiration the air in its gaseous state is always received into cavities, on the internal surface of which the blood vessels, intended to receive its influence, are distributed. It is not difficult to assign the final cause of this change of plan; for in each case the structure is accommodated to the mechanical properties of the medium respired. A liquid, being inelastic and ponderous, is adapted, by its momentum alone, to separate and surround the loose floating filaments composing the branchiæ; but a light gaseous fluid, like air, is, on the contrary, better fitted to expand dilatable cavities into which it may be introduced.

Occasionally, however, it is found that organs constructed like branchiæ, and usually performing aquatic respiration, can be adapted to respire air. This is the case with some species of Crustacea, of the order *Decapoda*, such as Crabs, which, by means of a peculiar apparatus, discovered by Audouin, and Milne Edwards, retain a quantity of water in the branchial cavity so as to enable them to live a very long time out of the water. It is only in their mature state of development, however, that they are qualified for this amphibious existence, for at an early period of growth they can live only in water.

There is an entire order of Gasteropodus Mollusca which breathe atmospheric air by means of pulmonary cavities. This is the case with the *Limax*, or slug, and also with the *Helix*, or snail, the *Testacella*, the *Clausilia*, and many others, which, though partial to moist situations, are, from the conformation of their respiratory organs, essentially land animals. The air is received by a round aperture near the head, guarded by a sphincter muscle, which is seen to dilate or contract as occasion may require, but which is sometimes completely concealed from view by the mouth folding over it. The cavity, to which this opening leads, is lined with a membrane delicately folded, and overspread