

CHAPTER EIGHTH.

OF RESPIRATION.

245. For the maintenance of its vital properties, the blood must be submitted to the influence of the air. This is true of all animals, whether they live in the atmosphere or in the water. No animal can survive for any considerable period of time without air; and the higher animals almost instantly die when deprived of it. It is the office of RESPIRATION to bring the blood into communication with the air.

246. Among animals which breathe in the open air, some have a series of tubes branching through the interior of the body, called *tracheæ*, (Fig. 89, *t*,) opening externally upon the sides of the body, by small apertures, called *stigmata*, (*s*;) as in insects and in some spiders. But the most common mode of respiration is by means of LUNGS, a pair of peculiar spongy or cellular organs, in the form of large pouches, which are the more complicated in proportion to the quantity of air to be consumed.

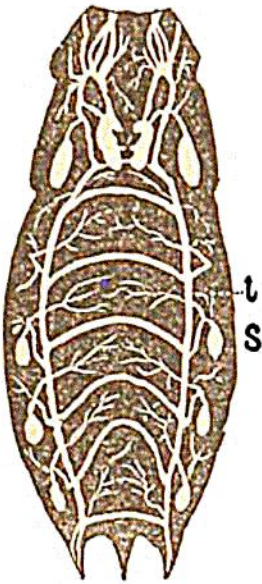


Fig. 89.

247. In the lower vertebrata, provided with lungs, they form a single organ; but in the higher classes they are in pairs, placed in the cavity formed by the ribs one on each side of