perfect frog. We have already had occasion to notice several of these transformations in the organs of the mechanical functions, and also in those of digestion and circulation: but the most remarkable of all are the changes occurring in the respiratory apparatus, corresponding with the opposite nature of the elements which the same animal is destined to inhabit in the different stages of its existence. No less than, three sets of organs are provided for respiration; the first two being branchiæ, adapted to the fish-like condition of the tadpole, and the last being pulmonary cavities, for receiving air, to be employed when the animal exchanges its aquatic for its terrestrial life. It is exceedingly interesting to observe that this animal at first breathes by gills, which project in an arborescent form from the sides of the neck, and float in the water; but these structures are merely temporary, being provided only to meet the immediate exigency of the occasion, and being raised at a period when none of the internal organs are as yet perfected. As soon as another set of gills, situated internally, can be constructed, and are ready to admit the circulating blood, the external gills are superseded in their office; they now shrivel, and are removed, and the tadpole performs its respiration by means of branchiæ, formed on the model of those fishes, and acting by a similar mechanism. 'By the time that the system has undergone the changes necessary for its conversion into the frog, a new and very different apparatus has been evolved for the respiration of air. These are the lungs, which gradually coming into play, direct the current of blood from the branchize, and take upon themselves the whole office of respiration. The branchiæ, in their turn, become useless, are soon obliterated, and leave no other trace of their former existence than the original division of the arterial trunks, which had supplied them with blood directly from the heart, but which, now uniting in the back, form the descending aorta.\*

There is a small family called the *Perenni-branchia*, belonging to this class, which, instead of undergoing all the