

Salamanders, gilled Salamanders, Cæcilia, and the extinct Labyrinthodonta. Their entire organization is closely allied to that of Fishes. The *Pholidota*, or Reptiles, on the other hand, are much more closely allied to Birds. They comprise lizards, serpents, crocodiles, and tortoises, and the groups of the mesolithic Dragons, Flying reptiles, etc.

In conformity with this natural division of Amphibious animals into two classes, the whole tribe of Vertebrate animals was divided into two main groups. The first main group, containing Amphibious animals and Fishes, breathe throughout their lives, or in early life, by means of gills, and are therefore called *gilled Vertebrata* (Branchiata, or Anallantoida). The second main group—Reptiles, Birds, and Mammals—breathe at no period of their lives through gills, but exclusively through lungs, and hence may appropriately be called Gill-less, or *Vertebrata with lungs* (Abranchiata, or Allantoida). However correct this distinction may be, still we cannot remain satisfied with it if we wish to arrive at a true natural system of the vertebrate tribe, and at a right understanding of its pedigree. In this case, as I have shown in my General Morphology, we are obliged to distinguish three other classes of Vertebrate animals, by dividing what has hitherto been regarded as the class of fishes into four distinct classes. (Gen. Morph. vol. ii. Plate VII. pp. 116–160.)

The first and lowest of these classes comprises the *Skull-less* animals (Acrania), or animals with *tubular hearts* (Leptocardia), of which only one representative now exists, namely, the remarkable little Lancelet (*Amphioxus lanceolatus*). Nearly allied to this is the second class, that of the *Single-nostriled* animals (Monorrhina), or *Round-mouthed*