

sac, and a spleen. Further, all Double-nostriled animals possess a bladder-shaped expansion of the gullet, which, in Fish, has developed into the swimming bladder, but in all other Double-nostriled animals into lungs. Finally, in all Double-nostriled animals there exist in the youngest stage of growth the beginnings of two pairs of extremities, or limbs, a pair of fore legs, or breast fins, and a pair of hinder legs, or ventral fins. One of these pairs of legs sometimes degenerates (as in the case of eels, whales, etc.), or both pairs of legs (as in Cæciliæ and serpents) either degenerate or entirely disappear; but even in these cases there exists some trace of their original beginning in an early embryonic period, or the useless remains of them may be found in the form of rudimentary organs. (Compare above, vol. i. p. 13.)

From all these important indications we may conclude with full assurance that all double-nostriled animals are derived from a single common primary form, which developed either directly or indirectly during the primordial period out of the Monorrhina. This primary form must have possessed the organs above mentioned, and also the beginning of a swimming bladder and of two pairs of legs or fins. It is evident, that of all still living double-nostriled animals, the lowest forms of sharks are most closely allied to this long since extinct, unknown, and hypothetical primary form, which we may call the Primary Double-nostriled animals (*Proselachii*). We may therefore look upon the group of primæval fish, or *Selachii*, to which the *Proselachii* probably belonged, as a primary group, not only of the Fish class, but of the whole main-class of double-nostriled animals.

The class of *Fish* (*Pisces*) with which we accordingly