

ELEVENTH STAGE : *Primæval Fish (Selachii).*

Of all known Vertebrate animals, the ancestors of the *Primæval Fish* probably showed most resemblance to the still living Sharks (*Squalacei*). They *originated* out of the single-nostriled animals by the division of the single nostril into two lateral halves, by the formation of a sympathetic nervous system, a jaw skeleton, a swimming bladder, and two pairs of legs (breast fins or fore-legs, and ventral fins or hind-legs). The internal organisation of this stage may probably, upon the whole, have corresponded to the lowest species of Sharks known to us; the swimming bladder was however more strongly developed; in the case of the latter it exists only as a rudimentary organ. They *lived* as early as the Silurian period, as is proved by the fossil remains of sharks (teeth and fin spines) from the Silurian strata. A *certain proof* that the Silurian ancestors of man and of all the other double-nostriled animals were nearest akin to the *Selachii*, is furnished by the comparative anatomy of the latter; it shows that the relations of organisation in all *Amphirrhina* can be derived from those of the *Selachii*.

TWELFTH STAGE : *Mud Fish (Dipneusta).*

Our twelfth ancestral stage is formed by Vertebrate animals which probably possessed a remote resemblance to the still living Salamander fish (*Ceratodus*, *Protopterus*, *Lepidosiren*, p. 212). They *originated* out of the *Primæval fish* (probably at the beginning of the palæolithic, or primary period) by adaptation to life on land, and by the transformation of the swimming bladder into an air-breathing lung, and of the nasal cavity (which now opened