

## 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