

locomotive organ of which is still the vertebral column with the movable ribs, as in the Snakes. In the *Dibamus* of New Guinea, there appear, for the first time, visible extremities, small, slender, toeless, scaly hind feet. In the *Bipes* of New Holland these become somewhat larger, and in *Brachymeles*, rudiments of anterior extremities are added. In the genus *Evesin*, these extremities are still undivided; in the *Brachymeles* proper they have, in front and behind, two toes; in the South-European *Seps*, we find already three toes in front and behind; in the *Scincus* five,¹ in front and behind, but the fore feet are still weak and do not yet carry the body so swiftly and easily over the earth as those of the Lizards, but these also, with their perfectly developed feet, are still assisted by the motion of the vertebral column. From this point of the series up to the Turtle, there is a great stride, for in them the head and neck are free, much freer than in any of the Saurians whatsoever. The vertebral column has become stiff; the four feet are the only locomotive organs; and yet in the marine Turtles, the fore feet exceed greatly in power the hind pair, and it is only in the land Turtles that we find at last all the four feet perfectly equal in strength, affording four props or supports, upon which the whole body moves slowly forward, like a house on rollers.

This is the natural series of the orders in the class of true Reptiles. Let us now consider the class of Amphibians from the same point of view. The *Cæcilia*, the lowest Batrachian, is a long-drawn, serpent-like animal, moving by means of undulations of the vertebral column. In one of our southern Ichthyoid Batrachians, called *Siren*, there arise two feeble feet in front, or rather a pair of diminutive anterior limbs project from behind the gills. In the German *Proteus*, or the North American *Amphiuma*, four legs are already perceptible, having from two to three toes, and the Salamanders, which at present extend over the whole surface of the globe, walk, like the Lizards, on four well developed feet, using like them, however, the whole dorsal column as a locomotive organ. From these, again, we have a stride up to the Frog. The spine has become stiff; all lateral motion has ceased in it, and, as in the Reptile when in its highest development, so with the most perfect Batrachian, the four feet are the only locomotive organs. This is the series of the Amphibians.²

If we now compare the highest Reptile, the Turtle, with the highest Amphibian, the Frog, the locomotive organs in both being completely developed, and the spine serving no longer for locomotion, we find the latter ready to be applied to other purposes. A step towards this is made in the Frog. The caudal bone is separated sharply and distinctly from the rest of the spine, as is also the neck,

¹ For further details respecting the series of the family of *Scincoids*, see Part I., Chap. 1, Sect. 12.

² Compare the illustrations of this series in my Lectures on Comparative Embryology, p. 8 to 10.