

of plesiosaurus. But in all,—whether mammals, birds, or undegraded reptiles,—they are so placed, that the creatures possess *necks*, of greater or less length, as an essential portion of their general type. The hinder limbs have also in all these three divisions of the animal kingdom their typical place. They occur opposite, or very nearly opposite, the posterior termination of the abdominal cavity, and mark the line of separation between the vertebræ of the trunk (dorsal, lumbar, and sacral) and the third and last, or *caudal* division of the column,—a division represented in man by but four vertebræ, and in the crocodile by about thirty-five, but which is found to exist, as I have already said, in all the more perfect forms. The limbs, then, in all the symmetrical animals of the first three classes of the vertebrata, mark the three great divisions of the vertebral column,—the division of the *neck*, the division of the *trunk*, and the division of the *tail*. Let us now inquire how the case stands with the fourth and lowest class,—that of the fishes.

In those existing Placoids that represent the fishes of the earliest vertebrate period, the places of the double fins,—pectorals and ventrals,—which form in the ichthyic class the true homologues of the limbs, correspond to the places which these occupy in the symmetrical mammals, birds, and reptiles. The scapular bases of the fore or pectoral fins ordinarily begin opposite the twelfth or fourteenth vertebra;\* but they range, as in man and the mammals, in a forward direction, so that the fins themselves are opposite the eighth or tenth. The pelvic bases of the ventral fins are placed nearly opposite the base of the abdomen, so that, as in all the symmetrical animals, the

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\* The twelfth in *Spinax Acanthias*, and the fourteenth in *Scyllium Stellare*.