

The progress of the ichthyic tail, as recorded in geologic history, corresponds with that of the ichthyic limbs. And as in the existing state of things we find fishes that *nearly* represent, in this respect, all the great geologic periods, — I say *nearly*, not *fully*, for I am acquainted with no fish adequately representative of the period of the Old Red Sandstone, — it may be well to cast a glance over the *contemporary* series, as illustrative of the *consecutive* one. In those Placoids of the shark family that to a large brain unite homological symmetry of organization, and represent the fishes of the first period, we find, as I have already shown, that the vertebræ gradually diminish in the caudal division of the column, until they terminate in a point, — a circumstance in which they resemble not merely the betailed reptiles, but also all the higher mammiferous quadrupeds, and even man himself. And it is this peculiarity, stamped upon the less destructible portions of the framework of the tail, — vertebræ and processes, — rather than the one-sided or heterocercal form of the surrounding fin, composed of but a mucoidal substance, that constitutes its grand characteristic; seeing that in some Placoid genera, such as *Scyllium Stellare*, the terminal portion of the fin is scarce less largely developed above than below, and that in others, as in most of the Ray family, the under lobe of the fin is wholly wanting. In the sturgeon, — one of the few Ganoids of the present time, — we become sensible of a peculiar modification in this heterocer-

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of course, the remark equally bears on the *reduced* as on the *unelevated*, — on lowness of place when a result of degradation in races pertaining to a higher division of animals, as on lowness of place when a result of the humble standing of the division to which the races belong.