

shews that the fishes were homologically symmetrical in their organization, as exhibited in the Placoids. In the second great Ichthyic period, that of the Old Red Sandstone, he finds the first example in the class of fishes of *monstrosity, by displacement of parts*. In all the Ganoids of the period, there is the same departure from symmetry as would take place in man if his neck was annihilated, and the arms stuck to the back of the head. In the *Coccosteus* and *Pterichthys* of the same period, he finds the first example of *degradation through defect*, the former resembling a human monster without hands, and the latter one without feet. After ages and centuries have passed away, and then after the termination of the Palæozoic period, a change takes place in the formation of the fish tail. "Other ages and centuries pass away, during which the reptile class attains to its fullest development in point of size, organization, and number; and then, after the times of the cretaceous deposits have begun, we find yet another remarkable monstrosity of displacement introduced among all the fishes of one very numerous order, and among no inconsiderable proportion of the fishes of another. In the newly-introduced Ctenoids (*Acanthopterygii*), and in those families of the Cycloids which Cuvier erected into the order *Malacopterygii subbrachiati*, the hinder limbs are brought forward and stuck on to the base of the previously misplaced fore limbs. All the four limbs, by a strange monstrosity of displacement, are crowded into the place of the extinguished neck. And such, in the present day, is the prevalent type among fishes. Monstrosity through defect is also found to increase; so that the snake-like *apoda*, or feet-wanting fishes, form a numerous order, some of whose genera are devoid, as in the common eels and the congers, of only the hinder limbs, while in others, as in the genera *Muraena* and *Synbranchus*, both hinder and fore-limbs are wanting." From these and other facts, our author concludes that as in existing fishes we find many more proofs of the monstrosity, both from displacement and defect of parts, than in all the other three classes of the vertebrata, and as these monstrosities did not appear early, but late, "the progress of the race as a whole, though it still retains not a few of the higher forms, has been a progress not of development from the low to the high, but of degradation from the high to the low." An extreme example of the degradation of distortion, superadded to that of displacement, may be seen in the flounder, plaice, halibut, or turbot, — fishes of a family of which there is no trace in the earlier periods. The creature is twisted half round and laid on its side. The tail, too, is horizontal