

rock was not, as the development scheme would require, of a low organization, but quite high on the scale of fishes. The same is true of all the earliest species of this class. 'All our most ancient fossil fishes,' says Professor Sedgwick, 'belong to a high organic type; and the very oldest species that are well determined fall naturally into an order of fishes which Owen and Müller place, not at the bottom, but at the top of the whole class.'—*Discourse on the Studies of the University, etc.* 5th edit. p. lxiv. pref.

This point has been fully and ably discussed by Hugh Miller, Esq., in his late work, 'The Footprints of the Creator, or the *Asterolepis* of Stromness.' The *asterolepis* was one of these fishes found in the old red sandstone, sometimes over twenty feet long; yet, says Mr. Miller, 'instead of being, as the development hypothesis would require, a fish low in its organization, it seems to have ranged on the level of the highest ichthyic-reptilian families ever called into existence.'

Another point which Mr. Miller has laboured hard to establish, and of which there seems to be no reasonable doubt, is, that in many families of animals, not only were the first species that appeared of high organization, but there was a gradual degradation among those that were created afterwards. Of the fishes generally, he says, that '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.' Again he says, 'We know, as geologists, that the dynasty of the fish was succeeded by that of the reptile; that the dynasty of the reptile was succeeded by that of the mammiferous quadruped; and that the dynasty of the mammiferous quadruped was succeeded by that of man, as man now exists, a creature of a mixed character, and subject, in all conditions, to wide alternations of enjoyment and suffering. We know further, (so far, at least, as we have succeeded in deciphering the record,) that the several dynasties were introduced, not in their lower, but in their higher forms; that, in short, in the imposing programme of the creation, it was arranged as a general rule, that in each of the great divisions of the procession the magnates should walk first. We recognize yet further the fact of degradation specially exemplified in the fish and the