with a *second scale of organisation* nearly as complete, and as distinctly related to *time*, higher in the ranks of creation, and therefore *more sensibly dependent on physical conditions* than the well known and justly valued series of remains of mollusca.

The orders of fishes, according to their scaly coverings, are four; viz.

1st. SCALES ENAMELLED.

Placoid fishes, whose skin is *irregularly* covered with large or small plates, or points of enamel, as the rays and sharks, (Etym. πλαξ, a broad plate), occur recent and numerous in the fossil state, being found in nearly all the systems of strata, though the genera are mostly peculiar in each system.

Ganoid fishes are *regularly* covered with angular thick scales, composed internally of bone, and externally of enamel, generally smooth and bright. (Etym. γανος, splendour). Occur recent, but more abundantly in the fossil kingdom, in which fifty extinct genera have been recognised.*

M. Agassiz appears to have ascertained that the strata below the cretaceous rocks contain very few, *if any*, other fishes than such as are included in these orders.

2d. SCALES NOT ENAMELLED.

Ctenoid fishes have their scales of a horny or bony substance, without enamel; serrated or pectinated on the free posterior margin, (whence their name, from κτεις, a comb).

Cycloid fishes have smooth horny or bony unenamelled scales, entire at the posterior margin, with concentric or other lines on the outer surface. (Etym. κυκλος, a circle.)

To the last two orders with unenamelled scales belongs by far the greater proportion of existing species

* Buckland's Bridgewater Treatise, p. 270.