It must be obvious that another and most important branch of natural history is enlisted in aid of Geology, as soon as the study of the character of fossil Fishes has been established on any footing, which admits of such general application as the system now proposed. We introduce an additional element into geological calculations; we bring an engine of great power, hitherto unapplied, to bear on the field of our enquiry, and seem almost to add a new sense to our powers of geological perception. The general result is, that fossil Fishes approximate

and Sturgeons are of this Order. It contains more than sixty genera, of which fifty are extinct.

Third Order, *CTENOIDIANS.* (Pl. 27, Figs. 5, 6, Etym. κτεις, a *comb.*) The Ctenoïdians have their scales jagged or pectinated, like the teeth of a comb, on their posterior margin. They are formed of laminæ of horn or bone, but have no enamel. The Perch affords a familiar example of scales constructed on this principle.

Fourth Order, *CYCLOIDIANS.* (Pl. 27, Figs. 7, 8. Etym. κυκλος, a *circle.*) Families of this Order have their scales smooth, and simple at their margin, and often ornamented with various figures on the upper surface: these scales are composed of laminæ of horn or bone, but have no enamel. The Herring and Salmon are examples of Cycloidians.

Each of these Orders contains both cartilaginous and bony Fishes: the representatives of each prevailed in different proportions during different epochs; only the two first existed before the commencement of the Cretaceous formations; the third and fourth Orders, which contain three-fourths of the eight thousand known species of living Fishes, appear for the first time in the Cretaceous strata, when all the preceding fossil genera of the two first Orders had become extinct.