

15. Old Red Sandstone. Called also Devonian System.—
 In the Lower Old Red Sandstone the ganoids first appear.—*H. Miller*. So far as is yet known, all the fish of the earliest fossiliferous system (Primary, exhibited below) belonged to the placoid, or broad-plated order—a great division of fishes represented in the existing seas by the sharks and rays.—*Ib*. In accommodation to the mutilated state in which fossil fishes are frequently found, Agassiz classified them according to the structure of the scales. He divided them into four orders. (1.) Placoidians (from *πλαξ*, *plax*, a broad plate.) (2.) Ganoidians (from *γανος*, *ganos*, splendour, because of the brilliant surface of their enamel.) (3.) Ctenoïdians, from *κτεις*, *cleis*, a comb.) (4.) Cycloïdians (from *κυκλος*, *cuclos*, a circle.) ‘It is not too much to affirm, that in the comparatively small portion which this cluster of islands (the Orkneys) contains of the third part of a system (the Lower Old Red Sandstone), regarded only a few years ago as the least fossiliferous in the geologic scale, there are more fossil fish enclosed than in every other geologic system in England, Scotland and Wales, from the coal measures to the chalk, inclusive. Orkney could supply with ichthyoltes (fossil fishes) by the ton and the ship load, the museums of the world.’—*H. Miller*.

PRIMARY FOSSILIFEROUS OR TRANSITION.

16. Upper Silurian,—so called by Sir R. Murchison from that part of England and Wales which constituted the ancient British kingdom of the Silures, where this group can be best studied. ‘The most remarkable fossils are the scales, ichthyodorulites [bony spines forming the anterior part of the dorsal fin,] jaws, teeth, and coprolites [excrements] of fish of the Upper Lud-