

The *Glyptolepis*, or carved scale, may be regarded as the representative of a family of the Lower Old Red Sandstone, which, differing very materially from the genera described, had yet many traits in common with them, such as the bare, bony skull, the bony scales, the naked rays, and the unequally sided condition of tail. The fins, which were of considerable length in proportion to their breadth of base, and present in some of the specimens a pendulous-like appearance, cluster thick together towards the creature's lower extremities, leaving the upper portion bare. There are two dorsals placed as in the *Dipterus* and *Diplopterus* — the anterior directly opposite the ventral fin, the posterior directly opposite the anal. The tail is long and spreading; — the rays, long and numerously articulated, are comparatively stout at their base, and slender as hairs where they terminate. The shoulder-bones are of huge dimensions, the teeth extremely minute. But the most characteristic parts of the creature are the scales. They are of great size, compared with the size of the animal. An individual not more than half a foot in length, the specimen figured, (see Plate V., fig. 2,) exhibits scales fully three eighth parts of an inch in diameter. In another more broken specimen there are scales a full inch across, and yet the length of the ichthyolite to which they belonged seems not to have much exceeded a foot and a half. Each scale consists of a double plate, an inner and an outer. The structure of the inner is not peculiar to the family or the formation: it is formed of a number of minute concentric circles, crossed by still minuter radiating lines — the one described, and the other proceeding from a common centre. (See Plate V., fig. 5.) All scales that receive their accessions of growth equally at their edges exhibit, internally, a corresponding character. The outer plate presents an appearance less