

compared with the size of the body, was covered with bony plates, roughened after a pattern somewhat different from that of the scales, being tubercled rather than ridged; but the tubercles present a confluent appearance, just as chains of hills may be described as confluent, the base of one hill running into the base of another. The operculum seems to have been covered by one entire plate—a peculiarity observable, as has been remarked, among some of the ichthyolites of the Lower Old Red Sandstone, such as the *Diplopterus*; *Dipterus*, and *Osteolepis*. And it, too, has its fields of tubercles, and its smooth marginal selvedge, or border, on which the lower edges of the upper occipital plates seem to have rested, just as, in the roof of a slated building, part of the lower tier of slates is overtopped and covered by the tier above. The scales towards the tail suddenly diminish at the ventral fins to about one fourth the size of those on the upper part of the body; the fins themselves are covered at their bases, which seem to have been thick and fleshy like the base of the pectoral fin in the cod or haddock, with scales still more minute; and from the scaly base the rays diverge like the radii of a circle, and terminate in a semicircular outline. The ventrals are placed nearer the tail, says Agassiz, than in any other ganoid fish. (See Plate XIII., fig. 2.)

But no such description can communicate an adequate conception to the reader of the strikingly picturesque appearance of the *Holoptychius*, as shown in Mr. Noble's splendid specimen. There is a general massiveness about the separate portions of the creature, that imparts ideas of the gigantic, independently of its bulk as a whole; just as a building of moderate size, when composed of very ponderous stones, has a more imposing effect than much larger buildings in which the stones are smaller. The body measures a foot across, by