

Fig. 38.



SHOULDER (*i. e.* CORACOID?) PLATE OF ASTEROLEPIS.
(One third nat. size, linear.)

for the ichthyodorulite of some large fish, allied, mayhap, to the *Gyracanthus formosus* of the Coal Measures; but when detached from the stone, the hollow form and peculiar striæ of the inferior surface serve to establish its true character as a dermal plate. The diagonal furrowings which traversed it, as the twisted flutings traverse a Gothic column moulded after the type of the Apprentice Pillar in Roslin chapel, seem to have underlaid the edge of the opercule; at least I find a similar arrangement in the shoulder-plates of a large species of *Diplopterus*, which are deeply grooved and furrowed where the opercule rested, as if with the design of keeping up a communication between the branchiæ and the external element, even when the gill-cover was pressed closely down upon them. And,—as in these shoulder plates of the *Diplopterus* the furrows yield their place beyond the edge of the opercule to the punctulated enamel common to the outer surface of all the creature's external plates and scales,—we find them yielding their place, in the shoulder-plates of the *Asterolepis*, to the starred tubercles.

A few detached bones, that bear on their outer surfaces the dermal markings, must have belonged to that angular-shaped portion of the head which intervened between the cranial buckler and the intermaxillary bone; but the key for assigning to them their proper place is still to find; and I suspect that no amount of skill on the part of the compa-