they excel other fish; but such features are partly partaken of by families in inferior sub-kingdoms, showing that they cannot truly be regarded as marks of grade in their own class. When we look to the great fundamental characters, particularly to the framework for the attachment of the muscles, what do we find? — why, that of these Placoids, — 'the highest types of their class,' — it is barely possible to establish their being vertebrata at all, the back-bone having generally been too slight for preservation, although the vertebral columns of later fossil fishes are as entire as those of any other animals. In many of them traces can be observed of the muscles having been attached to the external plates, strikingly indicating their low grade as vertebrate animals. The Edinburgh Reviewer 'highest types of their class' are in reality a separate series of that class, generally inferior, taking the leading features of organization of structure as a criterion, but when details of organization are regarded, stretching farther, both downward and upward, than the other series; so that, looking at one extremity, we are as much entitled to call them the lowest, as the Reviewer, looking at another extremity, is to call them the 'highest of their class.' Of the general inferiority there can be no room for doubt. Their cartilaginous structure is, in the first place, analogous to the embryonic state of vertebrated animals in general. The maxillary and intermaxillary bones are in them rudimental. Their tails are finned on the under side only, — an admitted feature of the salmon in an embryonic stage; and the mouth is placed on the under side of the head, — also a mean and embryonic feature of structure. These characters are essential and important, whatever the Edinburgh Reviewer may say to the contrary; they are the characters which, above all, I am chiefly concerned in look-