

armed with enamelled osseous scales, of a stony hardness. It seems a somewhat curious circumstance, that fishes so unlike each other in their internal framework should thus resemble one another in their bony coverings, and in some slight degree in their structure of tail. One of the characteristics of sauroid fishes is the extreme compactness and hardness of their skeleton.*

It requires skill such as that possessed by Agassiz, to determine that the uncouth *Coccosteus*, or the equally uncouth *Pterichthys*, of the Old Red Sandstone, with their long articulated tails and tortoise-like plates, were *bona fide* fishes. but there is no possibility of mistaking the *Osteolepis*: it is obvious to the least practised eye that it must have been a fish, and a handsome one. Even a cursory examination, however, shows very striking peculiarities, which are found, on further examination, to characterize not this family alone, but at least one half the contemporary families besides. We are accustomed to see vertebrated animals with the bone uncovered in one part only, — that part the teeth, — and with the rest of the skeleton wrapped up in flesh and skin. Among the reptiles, we find a few exceptions

* "The sauroid or lizard-like fishes," says Dr. Buckland, "combine in the structure, both of the bones and some of the soft parts, characters which are common to the class of reptiles. The bones of the skull are united by closer sutures than those of common fishes. The vertebræ articulate with the spinous processes of sutures, like the vertebræ of saurians; the ribs also articulate with the extremities of the spinous process. The caudal vertebræ have distinct chevron bones, and the general condition of the skeleton is stronger and more solid than in other fishes: the air bladder also is bifid and cellular, approaching to the character of lungs; and in the throat there is a glottis, as in sirens and salamanders, and many saurians." — Note to *Bridgewater Treatise*, p. 274, first edit.