

comparatively little earth. The analogies of its internal skeleton bear, not on the skeletons of its brethren the mature full-grown mammals of the land, but on the skeletons of their immature or foetal offspring. But in the case of the true Placoids that analogy is faint indeed. Their skeletons contain true bone; — the vertebral joints of the Sharks and Rays possess each, as has been shown, an osseous nucleus, which retains, when subjected to the heat of a common fire, the complete form of the joint; and their cranial framework has its surface always covered over with hard osseous points. But though their skeletons possess thus their modicum of bone, unlike those of embryonic birds or mammals, they contain, in what is properly their cartilage, no gelatine. The analogy signally fails in the very point in which it has been deemed specially to exist. The cartilage of the *Chondropterygii* is a substance so essentially different from that of young or embryonic birds and mammals, and so unique in the animal kingdom, that the heated water in which the one readily dissolves has no effect whatever upon the other. It is, however, a curious circumstance, exemplified in some of the Shark family,* though it merely serves, in its exceptive character, to establish the general fact, that while the rays of the double fins, which answer to the phalanges, are all formed of this *indissoluble* cartilage, those rays which constitute their outer framework, with the rays which constitute the framework of all the single fins, are composed of a *mucoidal* cartilage, which boils into glue. At certain definite lines a change occurs in the texture of the skeleton; and it is certainly suggestive of thought, that the difference of substance which the change involves distinguishes that

* Such as the dog-fishes, picked and spotted.