

often find in the pulverulent clays and marls of the Tertiary strata, and in the Chalk of England and Westphalia, and in the fine lithographic stone of Solenhofen, fishes, perfect in form, and not only individuals, but groups, with the scales, fins, head, teeth, and even the capsule of the eye, in their natural positions. A small slab of marl from Aix, in Provence, in the collection of R. I. Murchison, Esq., contains scores of small fishes, as perfect as if recently imbedded in soft mud: a portion of this specimen is represented, *Lign.* 125; and the beautiful fish figured in the frontispiece of Vol. I. fig. 3, from near Castellamare, will serve to illustrate the state of perfection of some of the ichthyolites of the Jura limestone. In the Chalk, many of the fishes are uncompressed, the body being as perfect in form as if the original had been surrounded by soft plaster of Paris while floating in the water. But in coarse limestones and conglomerates, in other words, in materials that have been subjected to the action of the waves, and torrents, detached teeth, scales, bones, &c. constitute the principal vestiges of this class of beings.

In illustration of this branch of Palæontology, it will be expedient to consider, 1stly, the characters afforded by the scales and dermal appendages; 2dly, the teeth, or dental organs; 3dly, the osseous and cartilaginous skeletons; and lastly, apply the data thus obtained to the elucidation of some of the principal fossil genera and species.