

to substitute for my provisional figures, words by which to designate them ; but the necessary learning seemed wanting, and I at length came to find that I had got into a *terra incognita* in the geological field, the greater portion of whose organisms were still unconnected with human language. They had no representative among the vocables.

I formed my first imperfect acquaintance with the recent ganoid fishes in 1836, from a perusal of the late Dr. Hibbert's paper on the deposit of Burdighouse, which I owed to the kindness of Mr. George Anderson. Dr. Hibbert, in illustrating the fishes of the Coal Measures, figured and briefly described the *Lepidosteus* of the American rivers as a still surviving fish of the early type ; but his description of the animal, though supplemented shortly after by that of Dr. Buckland in the Bridgewater Treatise, carried me but a little way. I saw that two of the Old Red genera,—*Osteolepsis* and *Diplopterus*,—resembled the American fish externally. It will be seen that the first-mentioned of these ancient ichthyolites bears a name compounded, though, in the reverse order, of exactly the same words. But while I found the skeleton of the *Lepidosteus* described as remarkably hard and solid, I could detect in the *Osteopolis* and its kindred genus no trace of internal skeleton at all. The Cephalaspean genera, too,—*Cocosteus* and *Pterichthys*,—greatly puzzled me : I could find no living analogues for them ; and so, in my often-repeated attempts at restoration, I had to build them up plate by plate, as a child sets up its dissected map or picture bit by bit,—every new specimen that turned up furnishing a key for some part previously unknown,—until at length, after many an abortive effort, the creatures rose up before me in their strange, unwonted proportions, as they had lived, untold ages before, in the primordial seas. The extraordinary form of *Pterichthys* filled me with astonishment ; and, with its arched carpace and flat plastron restored before me, I leaped to the conclusion, that as the recent *Lepidosteus*, with its ancient representatives of the Old Red Sandstone, were sauroid fishes,—strange connecting links between fishes and alligators,—so the *Pterichthys* was a Chelo-