

plorer to the north of the Grampians can catch a glimpse of an earlier period of existence than that represented by the ichthyolites of the Lower Old Red Sandstone.

Very many ages must have passed ere, amid waves and currents, the water-worn debris which now forms the Great Conglomerate could have accumulated over tracts of sea-bottom from ten to fifteen thousand square miles in area, to its present depth of from one to four hundred feet. At length, however, a thorough change took place; but we can only doubtfully speculate regarding its nature or cause. The bottom of the Palæozoic basin became greatly less exposed. Some protecting circle of coast had been thrown up around it; or, what is perhaps more probable, it had sunk to a profounder depth, and the ancient shores and streams had receded, through the depression, to much greater distances. And, in consequence, the deposition of rough sand and rolled pebbles was followed by a deposition of mud. Myriads of fish, of forms the most ancient and obsolete, congregated on its banks or sheltered in its hollows; generation succeeded generation, millions and tens of millions perished mysteriously by sudden death; shoals after shoals were annihilated; but the productive powers of nature were strong, and the waste was kept up. But who among men shall reckon the years or centuries during which these races existed, and this muddy ocean of the remote past spread out to unknown and nameless shores around them? As in those great cities of the desert that lie uninhabited and waste, we can but conjecture their term of existence from the vast extent of their cemeteries. We only know that the dark, finely-grained schists in which they so abundantly occur must have been of comparatively slow formation, and that yet the thickness of the deposit