

thick masses of limestone, but only thin bands, interstratified with thick deposits of shale and sandstone, similar in most respects to those of the Coal-measures of Wales, and, like these, interstratified with beds of coal. The inference is obvious, that in these areas the conditions that prevailed were such, that a given area during oscillations of level was at one time sea, as proved by the sea shells in the strata, at another fresh water, as witnessed by the shells *Anthracosia*, *Anthracomya*, &c., and at another time land, as shown by the beds of coal, each underlaid by its terrestrial soil of underclay with *Stigmaria*, the roots of *Sigillaria*.

If this be true, we get a hint of a new phase of the physical geography of an epoch immediately succeeding that of the Old Red Sandstone. I have often thought that if we might imagine the vast flat territory of Northern Asia, with all its mighty rivers, to face south, so that they might run into a sub-tropical sea, we would have something like a picture of our Carboniferous epoch, succeeding one, the chief character of which, was the presence of numbers of large continental lakes. This at all events seems certain, that beds of coal are not the result of woody matter drifted into, and waterlogged in, lake hollows, by rivers, as was once imagined; but rather, considering the magnitude of the areas which the beds of coal cover, that they bear witness to the existence of a vast continent, or, if we take the whole world into account, of vast continents, through which wandering rivers traversed flat areas, comparable to those of the largest river areas of the living world. Deltas of the present day offer many analogies. The mouth of the Whang-ho or Yellow river is now 250 miles north from where it entered the sea about twenty years ago. The modern delta of the