which the roots are sometimes found, and the fact that some veins of coal are buried up and enclosed in marine limestone, their shales containing shells peculiar to salt water, all go to support this theory, once the favourite one among geologists. But, although it is quite clear that some coal fields were thus formed, by the drifting of vegetable matter from a distance into the sea, it is now held to be the exception to the general rule. The theory which is now generally received, teaches that the trees and plants of which the coal is formed, grew upon the spot where it is found. The reason why geologists were so long in coming to a decision upon this point, was, that the shales above and below the coal veins, often contained *marine* shells, sometimes exclusively so, at other times mixed with those peculiar to *fresh water;* and as it was evident to them for the reasons already stated, that some coal fields were deposited in the sea, it was contended that the fresh water shells were there by accident, that they were drifted there from the mouths of rivers. But then, this did not account for the fact that they often greatly predominated, and did not explain how it was that the shales below the coal veins contained the roots of the trees (*stigmaria* for instance) of which the coal is formed, while they gave by their appearance undoubted evidence of having grown there. Again, the drift theory did not account for the freedom from impurities of such a mass of vegetation, or for the presence of great stone trees imbedded in the sand stone, at right angles with the plane of its stratification, their roots terminating in the coal, beautiful specimens of which are yearly brought out where the mighty tidal waters of the Bay of Fundy wash and wear the carboniferous strata of Nova Scotia. When our readers reflect upon these difficulties, we think they will agree with us in expressing little surprise, that geologists were so long deciding this point, and coming to a conclusion as to what caused coal to be deposited, and what were the circumstances to which we are indebted, for the preservation for our use, of such enormous remains of the forests of the ancient world.

The theory which is now generally received, as the most satisfactory solution of all those difficulties; and indeed, the whole history of the deposit of coal may be summed up in one sentence of Sir Charles Lyell, who says, "All the phenomena, organic and inorganic, implies conditions no where to be met with, except in the deltas of large rivers." The formation of the coal measures is therefore attributed to the following causes. The rivers of the period are supposed to have been of great size, and the mud they brought down from the continents they drained formed at their mouths great deltas. The richness of the soil, which is always characteristic of deltas, caused, it is thought, rank and luxuriant forests to grow upon them. The rivers also would bring down large numbers of trees and pile them upon their banks, thus the deltas would contain an enormous mass of vegetable matter. It is