

the successive submergence of so many forests which grew one above the other, may have enabled this enormous accumulation of strata to have taken place in a sea of moderate depth.

Secondly. The evidence of the growth of more than ten forests of fossil trees superimposed one upon the other prepares us to admit more willingly the opinion, that the *Stigmaria* with its root-like processes was really the root of a terrestrial plant fossilised *in situ*. Yet, if we embrace this opinion, it follows that all the innumerable underclays with *Stigmaria* in North America and Europe, which I have alluded to at pp. 62 and 84, Vol. I., and p. 15, Vol. II., &c., are indications of an equal number of soils, whether of dry land or freshwater marshes, which supported a growth of timber, and were then submerged. If this be true, and the conclusion seems inevitable, the phenomenon of the upright trees in Nova Scotia, marvellous as it may be, shrinks into insignificance by comparison.

At the same time, it is quite intelligible, that we should find hundreds of cases where the soil has remained with the roots fixed in their original matrix for one instance where the trunk has continued to stand erect after submergence. Many favourable circumstances must concur, to allow of such an exception to the general rule. There must, for example, be an absence of waves and currents of sufficient strength to loosen and overturn the trees, and the water must be charged with sediment ready to envelope the plants before they have had time totally to decay. I have shown (p. 164, Vol. I.) that on the coast of S. Carolina and Georgia the land has sunk