

impressed with the belief that the trees grew on the spots where now they lie prostrate, and often buried beneath lacustrine or fluviatile (seldom marine) sediments.

To account for their occurrence, at levels and under circumstances which now render the growth of trees almost impossible, it is sometimes supposed that the waste of the coast has opened to the sea some secluded valley of peat, which, originally full of moisture, like a sponge, was raised thereby above the tide-level, but, on the loss of its seaward barrier, was drained, and sunk considerably. (Dr. Fleming, in the *Quarterly Journal of Science*, 1830.) But in most cases a real subsidence of the land is appealed to. (Dr. J. Correa de Serra, in *Phil. Trans.* 1799.)

The evidence in favour of the opinion that the trees really grew on the spots where now they appear has generally been thought satisfactory by geological writers; it is, however, not always so exact and complete as might be desired, because the circumstances which accompany the submarine forests have seldom been carefully inquired into with this object in view. Speaking of the deposits on the shores of the Frith of Tay, Dr. Fleming observes, that "the upper portion of the clay, on which the vegetable accumulation immediately rests, is *penetrated by numerous roots*, which are changed into peat and sometimes into iron pyrites." Stumps of trees, with roots attached, are observed on the surface of the peat. Leaves, stems, and roots of equisetaceæ, gramineæ, and cyperaceæ, with roots, leaves, and branches of birch, hazel, and probably alder, constitute the mass of the deposit. Hazel nuts without kernel abound. All these remains are much flattened where they lie horizontally, but the stems which remain erect retain their cylindrical figure. This is exactly similar to the condition of stems of trees in a coal district.

One of the most interesting deposits of peaty matter is that associated with *drifted tin ore*, on the coast of Cornwall. The deposit of Sandrycock, between the parishes