

223). We can hardly believe that in such cases any considerable number of years could have elapsed between the death of the tree and its final entombment. From the decayed condition of the interior of some imbedded trees, we may likewise infer that accumulation of sediment is not always an extremely slow process. Instances occur where, as Fig. 224, while sand and mud have been accumulating round the submerged stem, its interior has been rotting, so that eventually a mere hollow cylinder has been left, into which sediment and different plants (sometimes with the bodies of land animals) were introduced from above.<sup>15</sup> Large coniferous trunks (as in the neighborhood of Edinburgh) have been imbedded in sandstone, and have had their internal microscopic structure well preserved. In such examples, the drifted trees seem to have sunk with their heavier or root-end touching the bottom, and their upper end pointing upward in the direction of the current, like the snags of the Mississippi, and to have been completely buried in sediment before decay.

Continuous layers of the same kind of deposit suggest a persistence of geological conditions; numerous alternations of different kinds of sedimentary matter point to

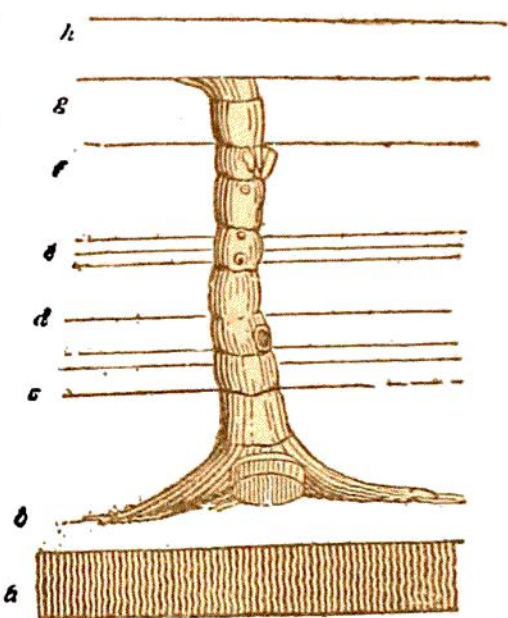


Fig. 223.—Erect tree-trunk rising through a succession of strata, Killingworth Colliery, Newcastle. *a*, High Main Coal-Seam; *b*, bituminous shale; *c*, blue shale; *d*, compact sandstone; *e*, shales and sandstones; *f*, white sandstones; *g*, micaceous sandstone; *h*, shale.

<sup>15</sup> The hollow tree-trunks of the Nova Scotian coal-fields have yielded a most interesting series of terrestrial organisms—land-snails and reptiles. For illustrations of trees in Coal-measure strata and the deposition of sediment round them see the Atlas to M. Fayol's Memoir cited on p. 837.