

in short, appears to be an accumulation of drifted materials, promiscuously intermingled with the dense foliage and stems of a prostrate forest.

It is from these upper beds, that the illustrative specimens of leaves, fruits, stems, &c. of the Flora of the coal are principally obtained. Thus we have, in the first place, spread uniformly over the bottom, and constituting the bed on which the coal reposes, a stratum of clay, composed of fine pulverulent materials, which may have once constituted the soil of a vast plain or savannah; the only remains found in it are the roots of gigantic trees (see *Lign.* 29.), for such the stigmariae are now proved to have been, and not aquatic plants, as was formerly supposed (*Bd.* p. 476.).

Secondly, a bituminous mass composed of coniferous wood, gigantic ferns, club-mosses, &c.; occasionally with trunks of trees penetrating vertically through the bed.

Thirdly, a deposit of drifted materials, promiscuously mixed with the foliage and stems of numerous species of terrestrial plants; the whole appearing to have been subjected to considerable mechanical action. The first, or undermost bed, may have been the natural soil, in which the stigmariae grew; the next, the coal, the carbonized stems, and other remains of the trees to which the roots belonged: and the last, or uppermost, forming the roof of the coal, the remains of the leaves