

that so great a degree of uniformity in the flora of regions equally remote is without parallel, whether in the more ancient strata or in the geographical distribution of plants, in the present condition of the globe.

Continuing our survey of the cliffs of the South Joggins, we observe, not far above the uppermost coal-seams with vertical trees, or, *g*, *fig.* 18, two strata, *h*, *i*, perhaps of freshwater or estuary origin, composed of black calcareo-bituminous shale, chiefly made up of compressed shells, of two species of *Modiola* and two kinds of *Cypris*. Above these beds are innumerable strata of red sandstone or shale, without coal seams, and with few or no fossils, on which it will be unnecessary to dwell.

Many curious conclusions may be deduced from the facts above enumerated.

1st. The erect position of the trees, and their perpendicularity to the planes of stratification, imply that a thickness of several thousand feet of strata, now uniformly inclined at an angle of  $24^{\circ}$ , were deposited originally in a horizontal position. But for the existence of the upright trees it might have been conjectured, that the beds of sand and mud have been thrown down at first on a sloping bank, as sometimes happens in the case of gravel and coarse sand. But, if we are compelled to assume the original horizontality of beds 2500 feet thick, through which the erect trees are dispersed, we can hardly avoid extending the same inference to the greater part of the strata above and below them. It by no means follows that a sea four or five miles deep was filled up with sand and sediment. On the contrary, repeated subsidences, such as are required to explain