

above this clay, *e*, two feet eight inches. In the interior, on the other hand, were nine distinct layers of different composition: at the bottom, shale four inches; then, in the ascending series, sandstone one foot, shale four inches, sandstone four inches, shale eleven inches, clay with nodules of ironstone, *f*, two inches, pure clay two feet, sandstone three inches, and, lastly, clay four inches.

Mr. Bowman has explained in the Manchester Transactions the causes of the frequent want of correspondence in the strata enclosing a buried tree, and the layers of mud and sand accumulated in the interior, which vary according to the more or less turbid state of the water at the periods when the trunk decayed and became hollow, and according to the height to which it was prolonged upwards in the air or water after it began to be imbedded externally in sediment, and various other accidents. It is not uncommon to observe in Nova Scotia, as in England, that the layers of matter in the inside are fewer than those without. Thus, a "pipe" or cylinder of pure white sandstone, representing the interior of a fossil tree, will sometimes intersect numerous alternations of shale and sandstone. In some of the layers in the inside of the trunk, *a*, *b*, fig. 19, and in other trees in this line of cliffs, I saw leaves of ferns and fragments of plants which had fallen in together with the sediment.

Continuing my survey, I found the second of the erect trees, *e*, fig. 18, or *a*, fig. 21, separated from the first, or from *a*, *b*, fig. 19, by a considerable mass of shale and sandstone. This second trunk was about nine feet in length, traversing various strata, and cut