

of a very sterile heath in Staffordshire, some hundreds of acres were planted with Scotch fir, and, after twenty-five years, not less than twelve species of plants (not counting grasses and sedges) had made their appearance in the plantation of firs, "which could not be found in the heath," and this though the fir-forest seems to have been visited only by insectivorous birds.

The existence of a succession of forests of different prevailing species has been satisfactorily established in Denmark by the researches of Steenstrup on the *Skovmose*, or forest-bogs of that country. These bogs are from twenty to thirty feet in depth, and the remains of forest trees in successive layers prove that there have been three distinct periods of arborescent vegetation in Denmark—first, a period of the pine; secondly, a period of the oak; lastly, a period of the beech, not yet arrived at its culmination. The dominant species of each period flourished to the entire exclusion of the other two species. Cæsar affirms that the *Fagus* (beech) and *Abies* (fir) were, in his time, wanting in England; but the beech is now plentiful; and Harrison tells us, in his "*Historicall Description of the Island of Britaine*," that "a great store of firre" is found lying "at their whole lengths" in the "fens and marises" of Lancashire and other counties, where not even bushes grew in his time. No doubt such extinct forests have flourished in America, even since the Glacial Epoch, and have stocked the accumulating soils with their stores of vitalized fruitage, awaiting some future resurrection; and no doubt the "fens and marises" of Lancashire, under suitable circumstances, would reproduce from their granaries of forest fruit the arboreal vegetation which had flourished and disappeared before the Roman Conquest.

Mr. Marsh, in the work already quoted, after expressing his opinion that the vitality of seeds "seems almost imper-