

cases it would seem highly improbable that the seeds of such plants had recently been transported to such situations at the moment when the disappearing forest admits the introduction of the conditions essential to their growth. It can hardly be doubted that the seeds existed in the soil, ready to germinate whenever free sunlight, warmth, and atmospheric air should be permitted to rouse their latent vital energy. Of the same nature is the recurrence of particular forest growths upon the same soil. Not unfrequently the second growth is of a very different nature from the first. In the "old fields" of Virginia and other Southern States, the soil, cleared originally of the deciduous forest, and then abandoned after years of continuous cropping, sends up a growth of pines instead of deciduous trees. In some parts of Southern Ohio, as I have been informed, a forest of unmixed locust-trees follows the destruction of the ordinary mixed forest.

Mr. Marsh, in his learned work entitled "Man and Nature," has quoted from Dwight's "Travels" his account of the appearance of a fine growth of hickory on lands in Vermont which had been permitted to lie waste, when no such trees were known in the primitive forest within a distance of fifty miles. He quotes also Dr. Dwight's account of the appearance of a field of white pines, on suspension of cultivation, in the midst of a region where the native growth was *exclusively* of angiospermous trees. "The fact that these white pines covered the field exactly, so as to preserve both its extent and figure," says Dr. Dwight, "and that there were none in the neighborhood, are decisive proofs that cultivation brought up the seeds of a former forest within the limits of vegetation, and gave them an opportunity to germinate."

In this connection may be quoted a statement of Darwin, in "The Origin of Species," to the effect that in the midst