less obvious to any naturalist who has studied the structure of North America, and observed the wide area occupied by the modern or glacial deposits before alluded to,* in which marine fossil shells of living but northern species are entombed. It is clear that a great portion of Canada, and the country surrounding the great lakes, was submerged beneath the ocean when recent species of mollusca flourished, of which the fossil remains occur more than 500 feet above the level of the sea near Montreal. I have already stated that Lake Champlain was a gulf of the sea at that period, that large areas in Maine were under water, and, I may add, that the White Mountains must then have constituted an island, or group of islands. Yet, as this period is so modern in the earth's history as to belong to the epoch of the existing marine fauna, it is fair to infer that the Arctic flora now contemporary with man was then also established on the globe.

A careful study of the present distribution of animals and plants over the globe, has led nearly all the best naturalists to the opinion that each species had its origin in a single birth-place, and spread gradually from its original center, to all accessible spots fit for its habitation, by means of the powers of migration given to it from the first. If we adopt this view, or the doctrine of "specific centers," there is no difficulty in comprehending how the *cryptogamous* plants of Siberia, Lapland, Greenland, and Labrador scaled the heights of Mount Washington, because the sporules of the fungi, lichens, and mosses may be wafted through the air for indefinite distances, like smoke; and, in fact, heavier particles are actually known to have been carried for thousands of miles by the wind. But the cause of the occurrence of Arctic plants of the *phænogamous* class on the top of the New Hampshire mountains, specifically identical with those of remote Polar regions, is by no means so obvious. They could not, in the present condition of the earth, effect a passage over the intervening low lands, because the extreme heat of summer and cold of winter would be fatal to them. Even if they were brought from the northern parts of Asia, Europe, and America, and

* Ante, p. 33.