

passage over the intervening lowlands, because the extreme heat of summer and cold of winter would be fatal to them. We must suppose, therefore, that originally they extended their range in the same way as the plants now inhabiting Arctic and Antarctic lands disseminate themselves. The innumerable islands in the polar seas are tenanted by the same species of plants, some of which are conveyed as seeds by animals over the ice, when the sea is frozen in winter, or by birds; while a still larger number are transported by floating icebergs and field ice, on which soil containing the seeds of plants may be carried in a single year for hundreds of miles. A great body of geological evidence has now been brought together to show that this machinery for scattering plants, as well as for carrying erratic blocks southward, and polishing and grooving the floor of the ancient ocean, extended in the western hemisphere to lower latitudes than that of the White Mountains. When these last still constituted islands, in a sea chilled by the melting of floating ice, we may assume that they were covered entirely by a flora like that now confined to the uppermost or treeless region of the mountains, except in such portions of the period as were sufficiently cold to clothe their summits permanently in snow. As the continent grew by the slow upheaval of the land, and the islands gained in height, and the climate around these hills grew milder, the Arctic plants would retreat to higher zones, and finally occupy an elevated area, which probably had been, at first, or in the Glacial period, always covered with perpetual snow. Meanwhile the newly formed plains around the base of the mountain, to which northern species of plants could not spread, would be occupied by others migrating from the south, and perhaps by many trees, shrubs, and plants, then first created, and remaining to this day peculiar to North America."

The time to which the above views of Sir. C. Lyell would refer the migration of the White Mountain flora, is historically, very remote. The changes of level which have submerged the