American continent and re-elevated its land have occupied long periods. Whether, with Lyell, we measure these periods by the recession of the Falls of Niagara, or by the growth of the alluvial plain of the Mississippi; or, with Agassiz, by the extension of the peninsula of Florida, or endeavour to estimate the time required for the abrasion and deposition of the great mass of clay that fills the valley of the St. Lawrence, and allowing for the reductions of the antiquity of the Glacial period arising from recent observations and calculations, we cannot suppose that less than 8,000 or 10,000 years have elapsed since the Alpine plants of the White Mountains were cut off from all connection with their Arctic relatives. Their reign upon the mountain tops not only antedates all human dynasties, but probably reaches beyond the creation of man himself, and many of his contemporaries.

Positive evidence of the existence of some of these plants during a large portion of this lapse of time has actually been preserved in the Pleistocene deposits of Canada. At Green's Creek, on the Ottawa, in nodules in the clay containing marine shells, and coëval with the Leda clay of Montreal, there are numerous remains of plants that have been embedded in this clay at a time when the Ottawa valley was a bay or estuary, and when the Adirondack Mountains of New York and the mountains of New England were two rocky islands, separated from each other and from the mainland on the north by wide arms of the sea. The plants found in these nodules all appear to be of modern species. Several of these plants are found on the White Mountains, and they are all northern or boreal, but scarcely Arctic, belonging as they do to the southern margin of the Arctic land species. I have no doubt that further examination of these deposits will lead to the discovery of additional examples. This fact, proving as it does the existence of these species at the period in which the theory of Lyell and Forbes requires them to have migrated, is in itself strong corroborative