more Scandinavian species would return to Arctic America and Asia than survived in Greenland; some would be changed in form, because only the favoured varieties could have survived the struggle; some of the species of Alpine Siberia and of the Rocky Mountains would accompany the Scandinavian in their return to the arctic zone; while many arctic species would ascend those mountains, accompanying the alpine species in their reascent.

Again, as the same species may have been destroyed in many longitudes, or at most elevations, but not at all, we should expect to find some of those Arctic Scandinavian plants of Greenland which have not returned to Arctic America still lurking in remote corners of that great continent; and we may account for *Draba aurea* being confined to Greenland and the Rocky Mountains, *Potentilla tridentata* to Greenland and some scattered localities from the Alleghanies northward, and *Arenaria Grænlandica* to Greenland, Labrador and the Mountains of New England, by supposing that these were originally Scandinavian plants, which were driven south by the cold of the glaci... cpoch, but which on the return of warmth, being exterminated on the plains of the American continent, found a refuge among its mountains, where they now exist.

It appears, therefore, to be no slight confirmation of the general truth of Mr. Darwin's hypothesis, that, besides harmonizing with the distribution of arctic plants within and beyond the polar zone, it can also be made, without straining, to account for that distribution and for many anomalies of the Greenland flora, viz., i.—its identity with the Lapponian; ii.—its paucity of species; iii.—the fewness of temperate plants in temperate Greenland, and the still fewer plants that area adds to the entire flora of Greenland; iv.—the rarity of both Asiatic and American species or types in Greenland; and v.—the presence of a few of the rarest Greenland and Scandinavian species in remote and often alpine localities of West America and the United States.

## I.—ON THE LOCAL DISTRIBUTION OF PLANTS WITHIN THE ARCTIC CIRCLE.

The greatest number of plants occurring in any given a ctic district is found in the European, where 616 flowering plants have been collected from the verge of the circle to Spitzbergen. From this region vegetation rapidly diminishes in proceeding eastwards and westwards, especially the latter. Thus, in Arctic Asia only 233 flowering plants have been collected; in Arctic Green-