

knew of. On the return of Sir Edward Belcher's expedition from those regions, a series of rocks collected in the neighbourhood of Disco, by his former fellow voyager, Dr. Lyall, were placed in his hands, containing an accumulation of fossil leaves of plants, totally different from any now growing in that latitude. These fossils he forwarded to Professor O. Heer, of Zurich, for investigation, who had brought forward the most convincing proofs that that latitude was once inhabited by extensive forests, presenting fifty or sixty different species of arborescent trees, most of them with deciduous leaves, some 3 or 4 inches in diameter,—the elm, pine, oak, maple, plane, &c.; and, what was more remarkable still, evidences of apparently evergreen trees, showing that these regions must have had perennial light. It seemed extremely probable that the vegetation, which belonged to the miocene period, extended over a large portion of the Northern Arctic Regions. It would be of great interest to ascertain whether such vegetation extended even to the Pole; and he knew of nothing that would give greater assistance in solving this problem than the proposed expedition along Smith Sound. Turning to the existing flora of Greenland, he pointed out that, though one of the most poverty-stricken in the globe, it was possessed of unusual interest. It consisted of some 300 kinds of flowering plants (besides a very large number of mosses, algæ, lichens, &c.), and presented the following peculiarities:—

1. The flowering plants were, almost without exception, natives of the Scandinavian peninsula;
2. There was in the Greenland flora scarcely any admixture of American types, which nevertheless were found on the opposite coast of Labrador and the Polar Islands;
3. A considerable proportion of the common Greenland plants were nowhere found in Labrador and the Polar Islands, nor, indeed, elsewhere in the New World;
4. The parts of Greenland south of the Arctic circle, though warmer than those north of it, and presenting a coast 400 miles long, contained scarcely any plants not found to the north of that circle;
5. A considerable number of Scandinavian plants which are not natives of Greenland, are nevertheless natives of Labrador and the Polar Islands;
6. Certain Greenland and Scandinavian plants, which are nowhere found in the Polar plains, Labrador, or Canada, re-appear at considerable elevations on the White and the Alleghany and other mountains of the United States.

No other flora known to naturalists presents such a remarkable combination of peculiar features as this, and the only solution hitherto offered is not yet fully accepted. It is, that the Scandinavian flora—which he (Dr. Hooker) had shown evidence of being one of the oldest on the globe—did, during the warm period preceding the glacial—a period warmer than the present—extend in force over the Polar regions, including Greenland, the Polar American Islands, and, probably, much now submerged land in places connecting or lying between Greenland and Scandinavia, at which time Greenland no doubt presented a much richer Scandinavian flora than it now does. On the accession of the glacial period, this flora would be driven slowly southward, down to the extremity of the Greenland peninsula in its longitude, and down to the latitude of the Alleghanies and White Mountains in their longitudes. The effect in Greenland would be to leave there only the more Arctic forms of vegetation, unchanged in habits or features; the rest being, as it were, driven into the sea. But the effect on the American continent would be to bring the Scandinavian flora into competition with an American flora that pre-occupied the lands into which it was driven. On the decline of the glacial epoch, Greenland, being a peninsula, could be re-peopled with plants only by the northward migration of the purely Scandinavian species that had been previously driven into its southern extremity; and the result would be a uniform Scandinavian flora throughout its length, and this an Arctic one, from north to south. But in America a very different state of things would supervene: the Scandinavian plants would not only migrate north, but ascend the Alleghanies, White Mountains, &c.;