

temperature, facilitate the passage of antarctic species to the Arctic Ocean. In like manner the migration of certain marine animals from the southern to the northern hemisphere may have been brought about by the same cause.

In a collection of six hundred plants from the neighbourhood of the river Zaire, in Africa, Mr. Brown found that thirteen species were also met with on the opposite shores of Guiana and Brazil. He remarked that most of these plants were found only on the lower parts of the river Zaire, and were chiefly such as produced seeds capable of retaining their vitality a long time in the currents of the ocean. Dr. J. Hooker informs me that after an examination of a great many insular floras, he has found that no one of the large natural orders is so rich in species common to other countries, as the Leguminosæ. The seeds in this order, which comprises the largest proportion of widely diffused littoral species, are better adapted than those of any other plants for water-carriage.

The migration of plants aided by islands. — Islands, moreover, and even the smallest rocks, play an important part in aiding such migrations; for when seeds alight upon them from the atmosphere, or are thrown up by the surf, they often vegetate, and supply the winds and waves with a repetition of new and uninjured crops of fruit and seeds. These may afterwards pursue their course through the atmosphere, or along the surface of the sea, in the same direction. The number of plants found at any given time on an islet affords us no test whatever of the extent to which it may have co-operated towards this end, since a variety of species may first thrive there and then perish, and be followed by other chance-comers like themselves. If neither St. Helena nor Ascension have promoted the botanical intercourse between the Old and New Worlds, we may easily account for the fact by remembering that they are not only extremely minute and isolated spots, but are also bounded by lofty and precipitous shores, without beaches, where the seeds of foreign species could readily establish themselves.

Currents and winds in the arctic regions drift along icebergs covered with an alluvial soil, on which herbs and pine-saplings are seen growing, which may often continue to vegetate on some distant shore where the ice-island is stranded.

Dispersion of marine plants. — With respect to marine vegetation, the seeds, being in their native element, may remain immersed in water without injury for indefinite periods, so that there is no difficulty in conceiving the diffusion of species wherever uncongenial climates, contrary currents, and other causes do not interfere. All are familiar with the sight of the floating sea-weed,

“ Flung from the rock on ocean’s foam to sail,
Where’er the surge may sweep, the tempest’s breath prevail.”

Remarkable accumulations of that species of sea-weed generally known as gulf-weed, or sargasso, occur on each side of the equator in the Atlantic, Pacific, and Indian Oceans. Columbus and other