

cially on the ocean at a distance from land, blow constantly from the east, and are called trade winds, because they facilitate trading voyages.

The trade winds are caused partly by the diurnal motion of the earth from west to east, and partly by the heat of the sun rarefying the air within the tropics, and causing currents to rush in to restore the equilibrium.

Under the equator the trade winds are due east; and as you go from the equator toward the north, they incline to northeast, and toward the south, to southeast.

High lands interrupt the course of the trade winds. Under the lee of the African shore, for example, near the Cape Verd islands, calms and variable winds prevail; and the lofty barrier of the Andes shelters the sea near the western coast of South America, so that ships do not feel the trade winds till they are 80 leagues from the shore.

### 3. Where do the monsoons prevail?

In the Indian ocean the trade winds are curiously modified by the surrounding land. Between the southern tropic and  $10^{\circ}$  S. lat., where there is little land to disturb the motions of the air, the regular trade winds prevail; but north of this last parallel, southwest winds, accompanied by rain, prevail from April to October, and dry, northeast winds from October to April. These winds are called *monsoons*, and the change from one monsoon to another is attended by violent storms.

In the temperate and frigid zones the winds are variable, blowing irregularly, sometimes from one point and sometimes from another.

### 4. At what rate does the wind move, and what are hurricanes?

When the wind moves at the rate of 4 or 5 miles an hour, it is a gentle breeze; at the rate of 15 or 20