http://geology.19thcenturyscience.org/books/1902-Geikie-Geology/README.htm

slowly increase until finally the duration of the day and that of the year will be equal. The earth will then have reached the condition into which the moon has passed relatively to the earth, one-half being in continual day, the other in perpetual night.

The linear velocity due to rotation varies in different places, according to their position on the surface of the planet. At each pole there can be no velocity, but from these two points toward the equator there is a continually increasing rapidity of motion, till at the equator it is equal to a rate of 507 yards in a second.

To the rotation of the earth are due certain remarkable influences upon currents of air circulating either toward the equator or toward the poles. Currents which move from polar latitudes travel from parts of the earth's surface where the velocity due to rotation is small, to others where it is great. Hence they lag behind, and their course is bent more and more westward. An air current, quitting the north polar or north temperate regions as a north wind, is deflected out of its course, and becomes a northeast wind. On the opposite side of the equator, a similar current setting out straight for the equator, is changed into a southeast wind. Hence, as is well known, the Trade-winds have their characteristic westward deflection. On the other hand, a current setting out northward or southward from the equator, passes into regions having a less velocity due to rotation than it possesses itself, and hence it travels on in advance and appears to be gradually deflected eastward. The aërial currents, blowing steadily across the surface of the ocean toward the equator, produce oceanic currents which unite to form the westward flowing Equatorial current.