

the sun sets in their horizons, with part of the heat received in his passage over them, the motion of the atmosphere nearest the surface of the water must necessarily be from east to west, following the apparent motion of the sun. We find this proved by fact, on those portions of the globe where the general law is not obstructed by causes of an opposite nature, arising from terrene influence: viz., in the Pacific Ocean, between America and the east coast of New Holland, and also in the open sea between Africa and America. The central medium line of greatest rarefaction, is the equator; but according to the sun's declination north or south, it will be more to the northward or southward. The air thus rarefied in the lower regions of the atmosphere surrounding the earth, and comprised within the limits of the sun's path between the tropics, must be continually ascending into the higher, and thence, north of the equator, advancing towards the north pole; and south of the line, towards the south pole; till *some-where*, in its passage, it acquires that degree of condensation by cold, which compels it again to return, in the lower strata, to the point of greatest rarefaction, to undergo the same process.

"This seems to be the grand general law of nature's operation on the atmosphere, that by universal motion, it may be preserved in a state of purity."

"Let us now enquire, whether this same law is not equally applicable to that universal motion of the great deep, which must be equally necessary to its purity, and which we may therefore certainly presume does

<sup>1</sup> This counter-flux from the equator to the poles, and *vice versa*, is demonstrated by Mr. Daniel in his *Meteorological Essays*, published in 1823, who explains why, "This interchange of the polar and equatorial atmospheres must tend to an equalisation of temperature."