

vapour under the pressure and temperature existing at the surface of the earth, and at different heights above the earth's surface.

As the elastic force of vapour increases faster than the temperature of the vapour; and as the mean temperature at the Equator is, at least, 80° , while at the Poles it is below 32° ; it follows, that in an atmosphere of vapour, heated similarly to that of our earth, the specific gravity of the vapour at the Equator, would greatly exceed the specific gravity of the vapour at the Poles. Vapour thus exhibits a condition directly opposite to that of air, under the same circumstances. Hence the tendencies of the lateral currents, in an atmosphere of vapour, at the surface of the earth, would be precisely the reverse of those in an atmosphere of air; the tendency of the currents would be from the Equator toward the Poles; instead, as in air, from the Poles toward the Equator.

We have elsewhere stated the law of the decrease of the temperature of the atmosphere, observed in ascending from the surface of the earth; the atmospheric air being supposed to be free from moisture. A similar law would regulate the decrease of temperature in an atmosphere of vapour; but the rate of decrease would be much more slow, than in an atmosphere of perfectly dry air. Thus under the Equator,