

may agree with, or may be opposed to, these motions of the air.

In an atmosphere of vapour, when the temperature, and consequently the elasticity, of any portion is reduced; the surrounding vapour, by virtue of its greater elastic force, continues to advance towards the cooler locality, and to be there condensed until the thermal equilibrium is restored. The motion thus arising, depends upon the dynamical properties of vapour; and in an atmosphere of vapour, this restoration of the dynamical equilibrium, which depends on the thermal equilibrium, would take place with so great rapidity, as to be almost instantaneous. But in a mixed atmosphere, the case is different: in such an atmosphere, the presence of the heavier and more abundant air modifies, in a remarkable degree, the rapid motion of the lighter and less abundant vapour. Hence, instead of a rush of vapour and a momentary deluge, the diffusive motions of the vapour take place slowly; and sudden evaporation and condensation, with their consequences, are effectually prevented. These tendencies to diffusive motion, in vapour of different temperatures, have, no doubt, great influence on the contiguous surfaces of large masses of air differently saturated; and, in particular, are liable to affect smaller masses of air differently saturated, when