Besides our atmosphere of aqueous vapour, we have another and far larger atmosphere of common air; a *permanently elastic* fluid, that is, one which is not condensed into a liquid form by pressure or cold, such as it is exposed to in the order of natural events. The pressure of the dry air is about twenty-nine and a half inches of mercury; that of the watery vapour, perhaps, half an inch. Now if we had the earth quite dry, and covered with an atmosphere of dry air, we can trace in a great measure what would be the results, supposing still the equatorial zone to be hot, and the temperature of the surface to decrease perpetually as we advance into higher latitudes. The air at the equator would be rarefied by the heat, and would be perpetually displaced below by the denser portions which belonged to cooler latitudes. We should have a current of air from the equator to the poles in the higher regions of the atmosphere, and at the surface a returning current setting towards the equator to fill up the void so created. Such aerial currents, combined with the rotatory motion of the earth, would produce oblique winds; and we have in fact instances of winds so produced, in the trade winds, which between the tropics blow constantly from the quarters between east and north, and are, we know, balanced by opposite currents in higher regions. The effect of a heated surface of land would be the same as that of the heated zone of the equator, and would attract to it a sea breeze during the day time, a phenomenon, as we also know, of perpetual occurrence.

Now a mass of dry air of such a character as this, is by far the dominant part of our atmosphere; and hence carries with it in its motions the thinner and smaller eddies of aqueous vapour. The latter fluid may be considered as permeating and moving in the interstices of the former, as a spring of water flows through a sand rock.* The lower current of air is,

* Daniell. p. 129.