

into closer contact ; but at every step as we ascend from the surface of the earth the air becomes less dense, because it sustains a less pressure.

The elasticity of air increases proportionally with the density. The lower stratum of the atmosphere is confined to its present bulk, or has its present density, in consequence of the pressure it sustains. If that pressure were removed, then its elasticity would cause it to expand, and fill a much larger space ; but if we would give it double its present density, that is, reduce its bulk to one half, then a double pressure must be employed ; and if a triple density, a triple pressure must be applied ; because its elasticity would increase in the same proportion. This is what may be understood by the expression, the elasticity of the air increases proportionally with the density.

The decreasing density of the air is not without a purpose, as applied to the habits and wants of particular animals and vegetables. The condor, which is generally met with at an elevation of from ten to sixteen thousand feet above the level of the ocean, inhabits a very rarefied medium. Whenever it visits the lower strata of the atmosphere, it is compelled to do so from an absolute want of food, and leaves it for the regions of perpetual snow, which are more congenial to its habits and constitution, as soon as its wants are supplied. Humboldt states that when he visited the Antisina, one of the Andes of Quito, he was accompanied by the condor to the height of sixteen thousand feet above the sea ; but when he ascended Chimborazo, which is twenty thousand feet high, that kingly bird was seen hovering in the air beneath him. It would therefore appear that it is not suited to live in the warm temperature and great density of the atmospheric stratum that immediately surrounds the earth, nor in the intense cold and great rarefaction of that which rests upon the summit of Chimborazo. Every bird that floats in the aerial ocean has a certain habitation, governed or regulated by the power of its wing and its constitutional characters. The elevation from which Messrs. Robertson and Saccharoff threw from the car of their balloon the pigeons that fell like weights on the atmosphere, was that in which the condor would have stretched its broad pinions and defied the power of man.