der, projecting large fragments into the valleys beneath, and breaking away the lofty pinnacles from their parent beds.

There are several interesting experiments by which the expansibility of gases may be proved. If a flaccid bladder be held to a fire, or hot water be poured upon it, the air contained will dilate, and the bladder will be inflated. If a glass matrass be held over a spirit-lamp, the open end being immersed in some fluid, large bubbles of air will appear on the surface of the liquid, driven out by the expansion; but, as it cools, the elastic force decreases, and the liquid rushes into the bulb, showing the amount of expansion that was suffered by the enclosed air.

The expansion of gases by an increase of temperature is an effect productive of many of those phenomena which are observed in the atmosphere, for nearly all its changes are dependant on the action of heat. As all fluids become lighter when their temperature is raised, the heated particles will always rise to the top, and the coldest sink to the bottom, and a mass of liquid or vapour will consequently be arranged in strata. When a spirit-lamp is placed at the bottom of a vessel containing water or any other liquid, the particles in contact with the bottom will be heated, expand, and rise to the surface, while the colder particles descend; and a series of currents, some upwards, others downwards, will be established, until the whole mass is raised to the boiling temperature. It would be impossible to raise the temperature of a liquid by the application of heat to its surface. That which is true in these instances in regard to liquids is also true in relation to gases. The atmosphere, acted upon by solar heat, suffers innumerable changes as the result of the expansion it suffers. Currents of heated air rise from the surface in consequence of reflected or radiated heat, cold currents fall and occupy their places. In one region the surface of the earth is more heated than another, and a stream of cold air rushes from the colder regions to occupy its place, and by such processes as these, winds and hurricanes are produced.

From these statements it will be evident, that the expansion of bodies by an increased temperature is intimately connected with many phenomena which are witnessed on the surface of the earth; and that the facts to which we have briefly alluded are worthy the consideration of him who has no other object than to acquaint himself with the phenomena by which