the pores and cells of many rocks; by which means, a much greater store of expansive power may be *packed* into a small space than could happen if these vapours had not the property of becoming liquid. For, although the gas occupies much less room in a liquid state, yet it exerts exactly the same pressure upon the sides of the containing cavity as if it remained in the form of vapour.

If a tube, whether of glass or other materials, filled with condensed gas, have its temperature slightly raised, it will often burst; for a slight increment of heat causes the elasticity of the gas to increase in a very high ratio. We have only to suppose certain rocks, permeated by these liquid gases (as porous strata are sometimes filled with water), to have their temperature raised some hundred degrees, and we obtain a power capable of lifting superincumbent masses of almost any conceivable thickness; while, if the depth at which the gas is confined be great, there is no reason to suppose that any other appearances would be witnessed by the inhabitants of the surface than vibratory movements and rents, from which no vapour might escape. In making their way through fissures a very few miles only in length, or in forcing a passage through soft yielding strata, the vapours may be cooled and absorbed by water. For water has a strong affinity to several of the gases, and will absorb large quantities, with a very slight increase of volume. In this manner, the heat or the volume of springs may be augmented, and their mineral properties made to vary.

Connexion between the state of the atmosphere and earthquakes.—The inhabitants of Stromboli, who are mostly fishermen, are said to make use of that volcano as a weather-glass, the eruptions being comparatively feeble when the sky is serene, but increasing in turbulence during tempestuous weather, so that in winter the island often seems to shake from its foundations. Mr. Scrope, after calling attention to these and other analogous facts, first started the idea, that the diminished pressure of the atmosphere, the concomitant of stormy weather, may modify the intensity of the volcanic action. He suggests, for example, that where liquid lava communicates with the surface, as in the crater of Stromboli, it may rise or fall in the vent on the same principle as mercury in a barometer; because the ebullition or expansive power of the steam contained in the lava would be checked by every increase, and augmented by every diminution of weight. In like manner, if a bed of liquid lava be confined at an immense depth below the surface, its expansive force may be counteracted partly by the weight of the incumbent rocks, and also in part by atmospheric pressure acting contemporaneously on a vast superficial area. In that case, if the upheaving force increase gradually in energy, it will at length be restrained by only the slightest degree of superiority in the antagonist or repressive power, and then the equilibrium may be suddenly destroyed by any cause, such as an ascending draught of air, which is capable of depressing the barometer. In this manner we may account for the remarkable coincidence so frequently observed between the state of the weather and