top, or the floating of ice, the moderation of the rate of these changes seems to be the result of a *violation* of a law: that is, the simple rule regarding the effects of change of temperature, which at first sight appears to be the law, and which, from its simplicity, would seem to us the most obvious laws for these as well as other cases, is modified at certain critical points, *so as to* produce these advantageous effects:—why may we not say *in order to* produce such effects?

8. Another office of water which it discharges by means of its relations to heat, is that of supplying our *springs*. There can be no doubt that the old hypotheses which represent springs as drawing their supplies from large subterranean reservoirs of water, or from the sea by a process of subterraneous filtration, are erroneous and untenable. The quantity of evaporation from water and from wet ground is found to be amply sufficient to supply the requisite drain. Mr. Dalton calculated* that the quantity of rain which falls in England is thirty-six inches a year. Of this he reckoned that thirteen inches flow off to the sea by the rivers, and that the remaining twenty-three inches are raised again from the ground by evaporation. The thirteen inches of water are of course supplied by evaporation from the sea, and are carried back to the land through the atmosphere. Vapour is perpetually rising from the ocean, and is condensed in the hills and high lands, and through their pores and crevices descends, till it is deflected, collected, and conducted out to the bay, by some stratum or channel which is watertight. The condensation which takes place in the higher parts of the country, may easily be recognised in the mists and rains which are the frequent occupants of such regions. The coldness of the atmosphere and other causes precipitate the moisture in clouds and showers, and in the former as well as in the latter shape, it is condensed and absorbed by the cool

* Manchester Memoirs, v. 357.