...k soils of Hertfordshire. The following ... some of the results he obtained —

	1842.	1843.
Depth of rain in inches.	26·43	26·47
Evaporation.....	14·7	18·37
Filtration	11·76	8·10

...the same years, on the limestone soils of ...shire, Mr. C. Charnock obtained the fol...ng results (*ibid*, vol. x., p. 517) :—

	1842.	1843.
Depth of rain in inches.	23·11	24·9
Evaporation.....	21·56	26·11
Filtration.....	1.55	4·28

...his noticeable from these trials how much ...ter is the evaporation from the limestone ...s from the chalk; and how much less the ...ge. The wind produces a far more con...rable amount than the mere heat of the sun. ...marine-salt makers, who expose sea-water, ...ry shallow ponds to the action of the at...sphere, are well aware how much faster the ...mer breezes evaporate the water than the ...on a still day; every washerwoman is aware ...e same fact. Mr. Charnock experimental...upon this question; and found that—

	1842.	1843.
The annual evaporation from water to both the sun and the wind was in inches.....	33·61	34.17
From water exposed to the wind, but shaded from the sun.....	22.48	22.7.
From a drained soil.....	21·56	20·11
From a soil saturated with water.....	30·02	31·19

...t it is not only the surface of the earth and ...ers from whence the insensible moisture ...e atmosphere is derived. Plants contri...copiously, too, to the supply. It is certain ...plants of all kinds exhale moisture in large ...portions. Mr G. Philips (*Jour. R. A. S.*, ..., p. 306) found that the polyanthus, ...d in a pot of earth, between the 28th of ...uary and the 14th of April, 1845, evapo...2·01 grains of water daily for every square ... of surface of its leaves, the mould 10·8 ... for every inch of surface: he found that a ...day, with sun and wind, always promoted evap...ion, while a dull, cold day always retarded or ...ped it. The evaporation from the leaves of a ...to, under similar circumstances, was much ...being at the rate of only 1·4 grains per ... each square inch of surface. The transpira...n moisture from plants increases progres...ly from March to August, after which period ...dines. It is the most copious from sun-rise ...on, after which hour it lessens. Other ...s emit moisture at a much greater rate than polyanthus or the potato. Hales found that ...sunflower transpired, in July and August, 15 grains of water from every square inch of its surface; a cabbage, under favorable circumstances, has been found to emit, daily, water equal to its own weight.

Need we attempt to calculate the enormous amount of aqueous vapor which the vegetable world thus contributes to our atmosphere? the whole covering of our Emareld Isles pouring in an incessant stream of moisture; the vegetation of all lands contributing their portion. The dense steaming forests of the equitorial regions adding perhaps the largest amount in a given space, enormous, though insensible streams, rivalling in their weight of water those of the Amazon and the Mississippi. From the vegetation of the whole world, in every clime, in every soil, and at every altitude, from the level of the sea up to the lines of eternal snow, by day and by night, is this out-pouring going on; no winds prevent its continuance, by no change of temperature is this invisible stream of watery vapor entirely stayed.

But the emission of vapor upon the air by the surface of the earth, its waters, and its vegetation, are not the only sources of the supply of atmospheric moisture. All animals contribute a considerable share. As I have elsewhere had occasion to remark, the evaporation from the surface and from the lungs of animals is very considerable; it varies, however in different species and individuals. Cruikshank calculated it from his experiments to average about 7 pints in a man, during the 24 hours; Lavoisier and Seguin made it amount to only 3¼ pints, the maximum being 5lbs, the minimum 1¾lbs. They calculated that, in every 18 parts of water thus evaporated, 7 parts were from the lungs, and 11 from the skin. Its amount is increased by drink, but not by solid food Its minimum amount is immediately after a meal, and in close, foggy weather: it attains its maximum during digestion. It is, as might be expected, the most considerable in warm and breezy weather, in hot climates, and after great exercise. This is indicated by the enormous quantity of liquid consumed by those who labor under such circumstances; the daily 14 pints of beer, the 24 pints of cider allowed to the reapers (*Jour. R. A. S.*, vol. xiv., p. 445); and by the 30 pints of porter swallowed by the London coalwhippers—an amount which is often unequal to the loss they sustain by transpiration. The evaporation from labourers in certain situations, is, in fact, enormous. Dr. Southwood Smith made some observations upon the men employed in filling and emptying the Phœnix Gas Works. These men are thus engaged twice a day. On a foggy day in November, when the temperature of the external air was 39 degrees, the greatest loss of weight by these men in an hour and a quarter, was 2lbs. 15 ox.: and the average of eight men was 2lbs. 1 oz. On a bright day in the same month, when the temperature of the surrounding air was 60 deg., the greatest loss