

We should expect on so uneven a surface as the earth presents, that this element, which forms the liquid nourishment of all organic life, and which in many other ways seems indispensable, must be very unequally distributed, and fail entirely in many places; and yet we find it in almost every spot where man erects his habitation. And those places where there is a deficiency are usually extended plains; not, as we should expect, the mountainous regions. The latter are usually well watered; and this is accomplished in three ways. In the first place, in most mountainous countries, the strata are so much tilted up, as to prevent the water from running off. In the second place, the pervious strata are frequently interrupted by faults sometimes filled by impervious matter. In the third place, the comminuted materials that cover the rocks as soils, are often so fine, or of such a nature, as to prevent the passage of water; and thus much of the water that falls upon elevated land remains there, while enough percolates through the pervious materials to water the valleys and supply the streams. These carry it to the lakes and the ocean, where it is returned by evaporation in the form of clouds, and thus an admirable system of circulation is kept up, whereby this essential element is purified, and conveyed to every part of the surface where man or beast require it.

There is one recent discovery, which deserves notice here, because it depends upon the geological structure of the earth. When pervious and impervious strata alternate, and are considerably inclined, water may be brought from great depths by hydrostatic pressure, if the impervious stratum be bored through and the water-bearing deposit be reached. A perpetual fountain may thus be produced, and water be obtained in a region naturally deficient in it. An Artesian fountain of this description, in the suburbs of Paris, has been brought from the enormous depth of eighteen hundred feet!¹

Now, just consider that to deprive the earth of water is to deprive it of inhabitants, and you cannot but see in the means by which it is so widely, nay, almost universally, diffused, and

¹ In September, 1850, I visited this well, and found the water running still, at the rate of six hundred and sixty gallons per minute at the surface, and half that amount at the top of a tube one hundred and twelve feet high, from whence it could be carried to any part of Paris; and, in fact, does supply some of the streets. I tasted the water, and found it pleasant, though warm, (84 deg. Fahrenheit.)